

Plane Talk

MARCH • 1945



POST-WAR GOLIATH—204-Passenger Plane designed by Consolidated Vultee to cruise the world at around 350 miles an hour, which has been purchased by Pan-American World Airways for service on its most important trans-ocean routes. • See Story on Page 6

Plane Talk

If you wish to share your copy of Plane Talk with a soldier in the war theatres, 1st class postage is required (15¢). You may re-use the envelope in which your copy comes to you by pasting on a label addressed to the APO number; seal the envelope. The magazine may be mailed, unsealed, to a U. S. A. address for 3¢.

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We Appreciate the Letters

In the last two months literally hundreds of our readers have written us, in response to our New Year's note, to speak of PLANE TALK — not formal letters, most of them, but long friendly talks on paper that speak of their boys in the war, their hopes for post-war America, their interest in what PLANE TALK authors have to say. We cannot possibly answer all these letters as we should like. But we do want every writer to know how greatly this enthusiasm is appreciated by the editors and the officials of Consolidated Vultee.

The War in the Pacific

In this issue, as the European part of our war draws on to its inevitable ending, we are giving more space than ever before to the unfolding panorama in the Pacific, which some of our airmen have called the "Liberator Ocean". Whoever may settle the destinies of Europe, it is certain that the Pacific will for all the future be one of America's primary interests. Our military leaders have recently found it necessary to express concern lest our people be beguiled into making premature peace there. As Admiral Halsey phrased the problem, in referring to a possible effort by treacherous Japan to obtain a "negotiated" peace that would leave her still strong:

"They will begin to put out very attractive peace feelers. To my mind, that is the most dangerous period . . . If we do not demand absolute and unconditional surrender, we will be committing the greatest crime in the history of our country. They will merely use the peace, as the Germans did before them, to build up for another war."

Our Covers

The handsome portrait of General Arnold, showing him in his new rank of five-star General of the Army, is reproduced from an AAF kodachrome on the back cover without imposing printing, so that it may be framed. The picture of the new 204-passenger plane which Consolidated Vultee is to build for Pan American Airways is reproduced from a kodachrome of a scale model.

Go West, Young Man

These pictures were taken by Staff Sergeant Joseph Silvering, to show America's young aviators arriving in the Pacific theatre. . . . 1

The Navy's Privateers

New airplanes — particularly new four-engined bombers — are important news for Americans nowadays. Here's a new Navy plane. . . . 4

Goliath of the Airways

Pan American Airways will use it to carry 204 passengers to London, surrounded by luxury, in just about nine hours. . . . 6

Blockade by Air

Lt. Commander F. M. Plake, USNR, tells you what Navy men are doing with our 14th Air Force in China to help sink Jap ships. . . . 8

Our Schools Have a Job Ahead

America is in the midst of debate over what's wrong with education. Lt. Harry B. Girdler tells an airman's view. . . . 12

Pacific Ploesti

Borneo is to Japan what Ploesti was to Germany. Lt. John R. Hiner reports on its bombing in a great Liberator mission. . . . 13

This Is Our Enemy

The Jap aircraft worker must be defeated, no less than the Japs who wear the uniforms of war. Here is how he works. . . . 16

Not Like the Movies

Lt. Richard C. Amidon destroys some possible illusions about life in the Air Forces, but still leaves it interesting. . . . 19

Spanning the Indian Ocean

Fred B. Barton went down to India to inquire about a vital link in Britain's round-the-world airway, and gives us the news. . . . 20

Air Line in Paradise

Captain W. P. Monan tells a story to enchant anybody who dreams of the days when planes will be used for peaceful ends. . . . 22

How We Got Our Ship

Lt. Walter Petravage was with a Liberator crew that did want at least one notch on its bombsight — but almost despaired. . . . 25

Back to Usefulness

Phyllis Gandee reports on one of the most important projects in the AAF — the rebuilding of young aviators who were hurt. . . . 28

At 65° Below

Alaska is already one of the most important air bases of the world. As a testing ground for airplanes, it is tops. . . . 32

Edited by Hill and Knowlton for the Consolidated Vultee Aircraft Corporation and published every other month. Text and pictures have been cleared for publication with Government authorities. Text of any article contained in the magazine may be reprinted with or without credit to Plane Talk. Copies of most pictures, except those credited to commercial news agencies, can be made available to editors upon request. While manuscripts are not solicited, first hand accounts of experiences by men in the air forces at the fronts will be given careful consideration. All correspondence and address changes should be addressed to the office of Hill and Knowlton, Room 3301, 350 Fifth Avenue, New York 1, New York.

Go West

YOUNG MAN



As we push ever nearer Japan — and the landing on Iwo Jima by the Marines, after our previous weeks of bombing, puts us within 750 miles of Tokio — fresh bomber crews are taking over from the flying veterans in the Pacific.

Some of the newcomers have been in combat in other theatres of war, some come directly from the states. Here is the story of the arrival of one new Liberator crew at a Pacific base, told in pictures by Staff Sergeant Joseph Silvering.

← At the left, just off the B-24 in which they have arrived, you see some of the crew clambering in the truck that will take them from the airfield to their camp. Now turn the page. →



1 At their first meal, the crew give Cook Sergeant Johnson the latest dope from the States, meanwhile tearing into his chow.



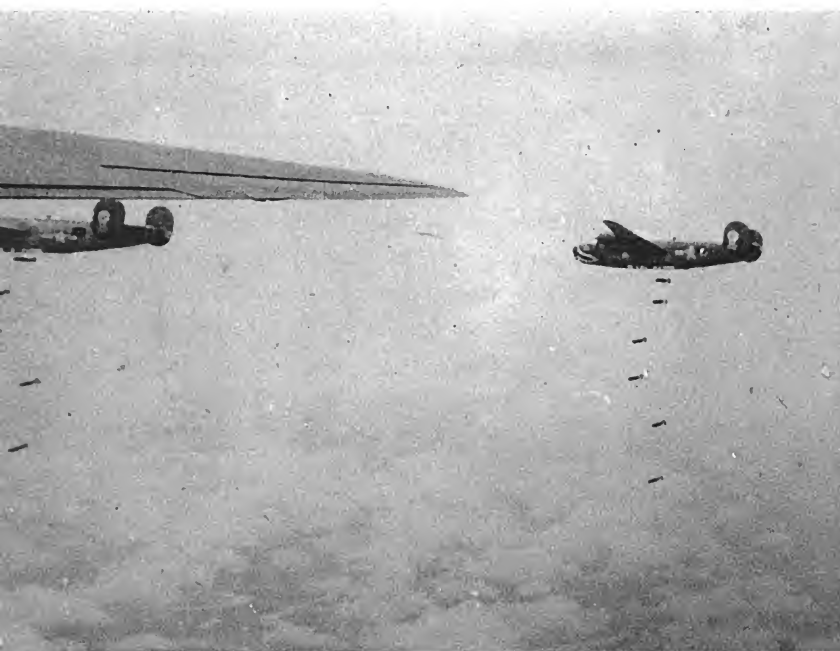
2 Tents and cots are checked out from supply. Barracks days are over. No more spring mattresses. And if you want a wooden floor, you build it.



5 Now ready for their first mission, the pilot, the radio operator, and a waist-gunner study their tomorrow's schedule.



6 The ten members of the crew study photos of the target areas. Photographic maps are available in views from various heights and perspectives.



9 The target! The bombardier has taken over for the strike, and the Liberator holds a steady course for the call, "Bombs Away!"



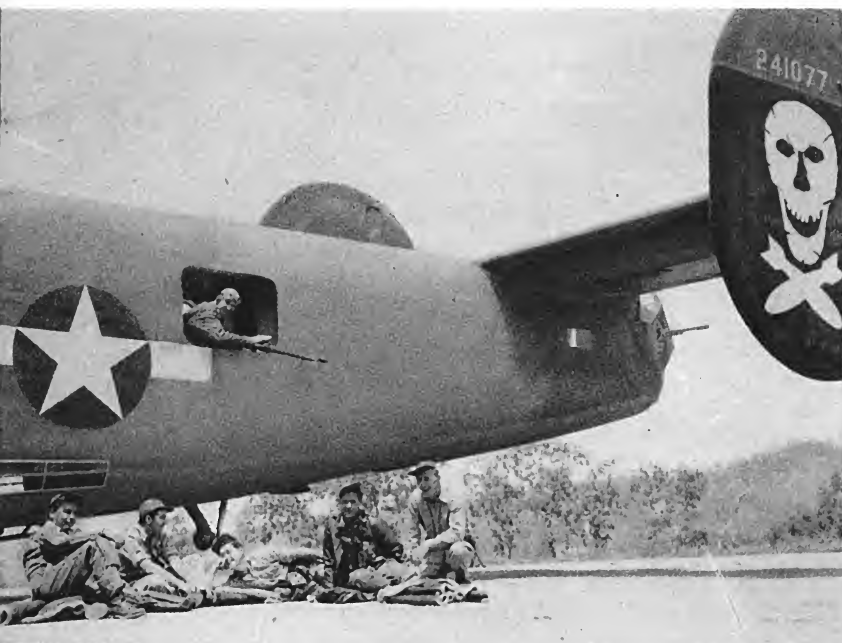
10 On the button! The crew know their stuff! Direct hits are scored on the Jap runway. But 35 Zekes are overhead. A running fight follows.



3 First night's sleep in the new quarters. Sleeping hereafter is done exclusively under mosquito nets. The atabrine ration against malaria becomes a daily requirement.



4 The new crew begins the first morning with a shower. Water is pumped from a nearby stream.



7 "Sweating out" the take-off—meaning to wait anxiously. The crew waits for the signal, while the waist-gunner makes a last check of his guns.



8 Now at last the signal for take-off comes from the control tower. Take-offs have to be made according to split-second timing.



11 They get rid of the Zekes in a half-hour's battle, arrive safely back at base, are welcomed by Red Cross girls with ice-cold "cokes".



12 For a first mission it was plenty hot. The gunners "renew life insurance". They clean the guns that downed three Zekes.

The Navy's Privateers

ANNOUNCED to the public only in January of 1945, although it has been in secret production for more than a year, the Privateer is a powerful new land-based bomber which Consolidated Vultee is building for the Navy.

Its Navy designation is the PB4Y-2, indicating the second in a series. The first of the PB4Y bombers was a modified version of the Liberator B-24, and was called the Navy Liberator. The Privateer is an entirely new plane, resembling the Liberator only in its Davis high-lift wing. The Navy wanted a plane with greater search efficiency, more fuselage space, and a different type of armament.

Two contracts with Consolidated Vultee call for production of \$85,000,000 of the Privateers up through July of 1946.

The Privateer is used for search and photographic missions, anti-submarine patrols, and bombing raids. Flying with a gross weight of 62,000 to 65,000 pounds, it has a maximum speed of more than 250 miles per hour. Its maximum flight range is considerably over 3,000 miles, and it is capable of staying aloft more than 20 hours. On normal missions the PB4Y-2 bomb bays carry 6,000 pounds of bombs or depth charges.

Technically known as a cantilever-wing monoplane, it has Pratt & Whitney twin wasp engines, a semi-monocoque fuselage, a single-rudder tail assembly, retractable tricycle landing gear, and twelve machine guns.

Probably the most striking feature of the PB4Y-2 is its single-rudder tail as-

sembly, whose huge dorsal fin rises more than 26 feet skyward when the airplane is parked on the ground. Besides providing satisfactory balance, control and stability in all normal loading conditions, this empennage creates considerably less drag than the double-rudder tail assembly of the PB4Y-1. The fixed tail surfaces are non-adjustable metal structures, while the movable tail surfaces are aluminum-alloy frames covered with fabric. Controllable trailing edge trimming tabs are incorporated in both elevators and the rudder.

The Privateer's fuselage is more than seven feet longer than the fuselage of the Navy Liberator. It is a metal skin structure, reinforced with longitudinal stringers and transverse bulkheads or beltframes. It has six power turrets, each with two machine guns. Projecting from its nose is a power-operated ball turret, which houses two .50 calibre machine guns, and beneath this turret is a small compartment with a bomb-sight window for the bombardier.

Bulging from the fuselage tail compartment, which is aft of the bomb bays, are two side waist gun blisters and an overhead turret, each of which houses two .50 calibre machine guns. Another pair of .50 calibre machine guns are contained in a tail turret, which projects from the aft end of the fuselage directly beneath the rudder.

Besides being one of the most heavily-armed airplanes in the Naval Service, the Privateer carries more radio and detection equipment than any other production model aircraft currently known to exist. Two of the Privateer's eleven crewmen are required to operate this equipment in each airplane.

Photographic equipment installed in the plane requires a bay the size of one of the bomb compartments of a regular Liberator. The plane has heavy armor of such quality that even practically point-blank fire of heavy machine guns is rendered harmless.

Consolidated Vultee's new hot-air system is used to heat the cabin and to prevent airfoil icing conditions. This system employs exhaust heat exchangers to warm air, which is then distributed through ducts to all parts of the airplane.

← Left, the powerful new Privateer is shown in flight. It has a maximum flight range of over 3,000 miles.

At the right, you see the new single rudder tail assembly. The dorsal fin rises more than 26 feet skyward, when the plane is on the ground. Bomb load is 6,000 pounds. →





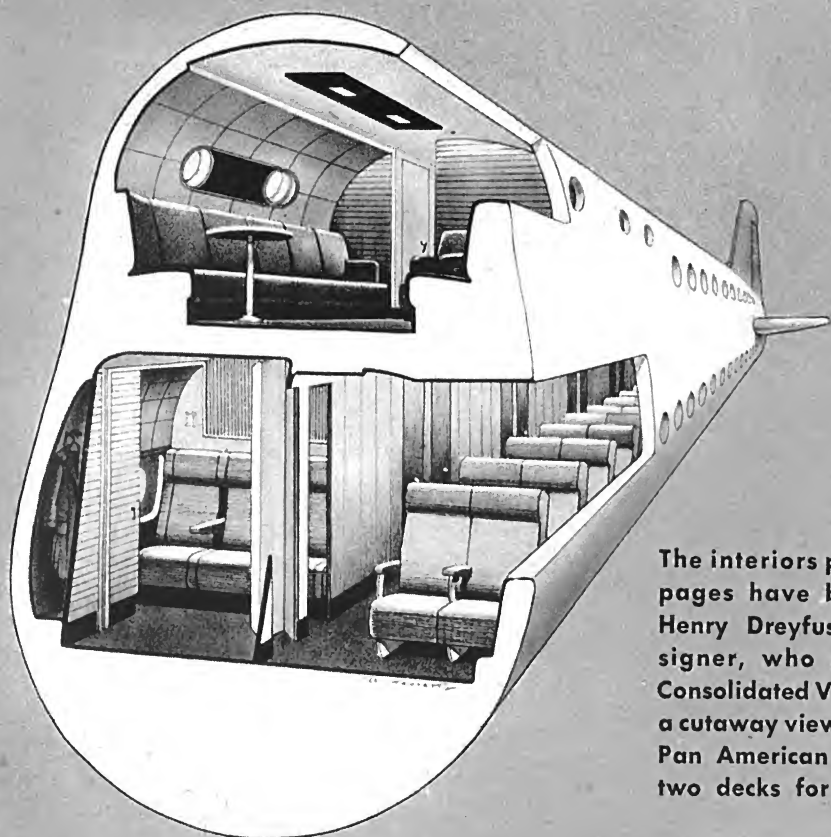


Goliath OF THE AIRWAYS

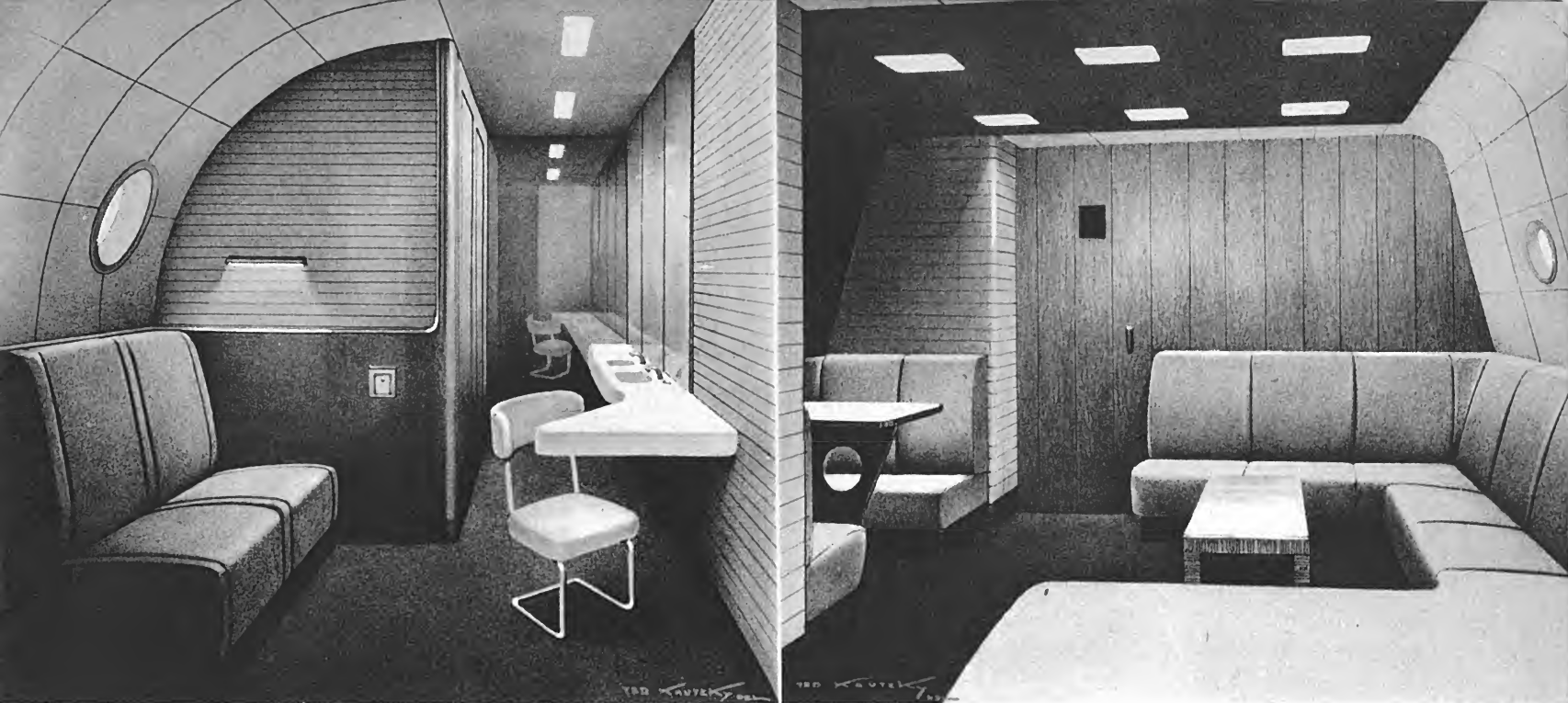
A FLEET of giant 204-passenger land-based Clippers, exceeding in luxury and size any transport aircraft yet proposed, is to be built for Pan American Airways by Consolidated Vultee to provide trans-oceanic air service post-war that will surpass anything ever experienced by air passengers. The contract for building these planes, announced in February, call for constructing as many as 15 of the huge Clippers — capable of handling 750,000 passengers a year in trans-Atlantic and trans-Pacific service.

The new Clipper will carry more passengers than any other plane in the world. It is 182 feet long and has a wing span of 230 feet. This wing span, more than twice that of the Liberator B-24, is equal to the height of a 21-story building. Weighing 320,000 pounds, the new airplane is twelve times the size of present standard twin-engined aircraft used commercially on United States routes.

Its cruising speed in trans-Atlantic service will approximate 342 miles per hour. Flight time from New York to London will be slightly more than nine hours.



The interiors pictured on these pages have been created by Henry Dreyfuss, industrial designer, who is consultant to Consolidated Vultee. At the left is a cutaway view of this great new Pan American Clipper, with its two decks for 204 passengers.



This shows one of the retiring rooms, with luxurious appointments.

The lounges have deep upholstery, heavy carpets, recessed lighting.

Cabins will be conditioned for operation at an altitude of 30,000 feet, so that storm areas can be avoided.

The six engines with which the giant airplane is equipped produce power equivalent to 353 average automobile engines. In order to take full advantage of laminar air flow, the engines are mounted on the trailing edge of the wing and are equipped with pusher-type propellers.

Carrying a payload of 50,000 pounds, made up of 204 passengers plus 15,300 pounds of baggage, mail and express, the new Clipper will have a range of 4,200 miles. Because airplanes of such great size and speed require heavy traffic volume to realize maximum economies, Pan American plans to utilize them only on its long-distance, high traffic density routes.

The plane will be completely double-

deck. Luxurious passenger facilities, complete with two lounges and a number of rest rooms, have been designed to take full advantage of the large deck space made possible by the plane's enormous size. Nine staterooms accommodating two persons each, and twelve berths, will be provided in one section for passengers who require such facilities.

Accommodations will include separate quarters for the operating crew.

Although the fleet cannot be produced until wartime restrictions have been removed, a full-scale model is complete and more than 90 percent of the initial engineering is finished. Pan American engineers have worked actively with Consolidated Vultee in development of the airplane.

Despite the plane's huge size, a single pilot will be able to handle it in the air.

Facts About The Model 37

The electrical system is equivalent to that used by a town of five thousand people.

The rate of fuel consumption at take-off is faster than a man could bail fuel out of a barrel with a ten quart pail.

The blueprints used to build this airplane would cover a sixteen acre field.

The wing tips may be flexed about six feet in a gust or during certain maneuvers.

The heating facilities are sufficient to heat a forty-room apartment house.

One of these airplanes could move as much freight in 9 days, between San Francisco and New York, as a freight engine with about thirty box cars.

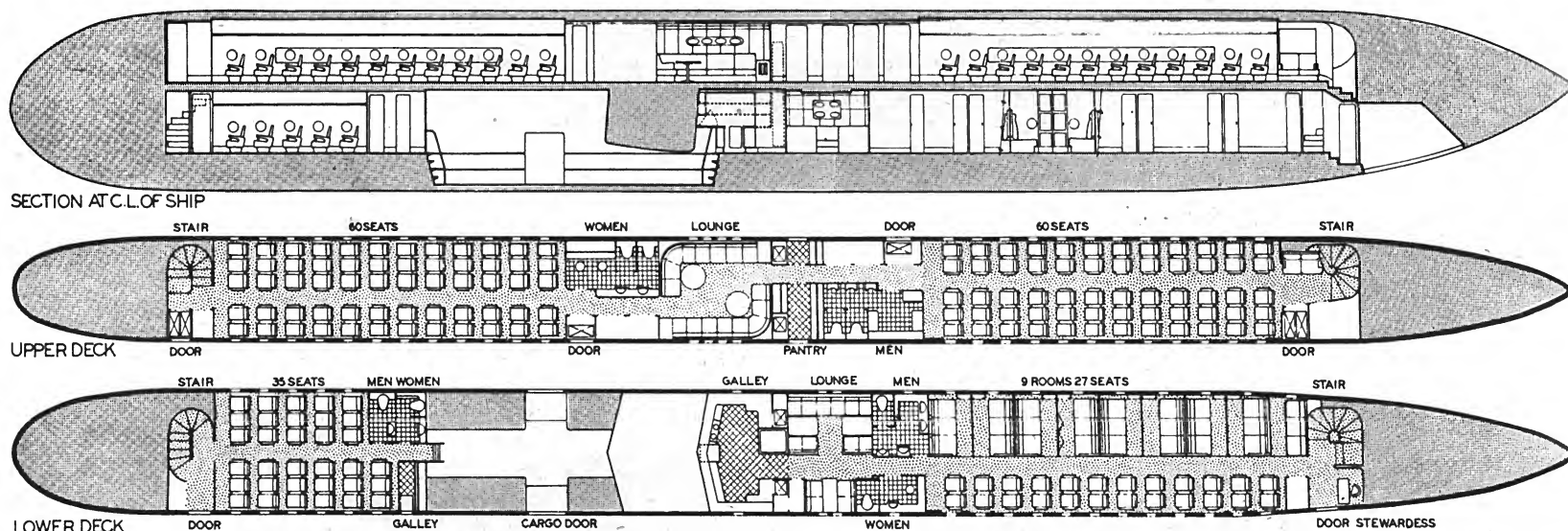
Each of the main landing gear tires is approximately one foot greater in height than the average ceiling in a home.

The tail extends to the height of a five-story apartment building.

The propellers extend higher than a two-story home.

A family automobile can be driven under the fuselage with ample clearance.

Pan American announces that the enormous capacity and high speeds of these new Clippers, designed to carry 204 passengers, will be translated into unprecedentedly low fares not possible with smaller aircraft. Below is an engineers' drawing showing a cross section and plans of the decks.



BBlock



ade by Air

By Lt. Commander
F. Marvin Plake, USNR
14th Air Force

I HAVE been privileged to see a great deal of the work of the Army Air Forces in the Pacific theatre — more particularly in China. I have heard the exclamation many times, "What! A Navy man in China?" The answer is to be found in the Navy's liaison work with the Army Air Forces, in drawing the noose of blockade around Japan.

To understand some of the most effective work of the 14th Air Force, you must realize one of the revolutionary turns that air-power has given this war. In previous wars sea blockade was almost exclusively a naval job. Today the airplane is one of our most effective weapons for disrupting enemy shipping. The Army's bombers play their part in this just as the Navy's do.

That helps explain why many of our Army Air Forces have a handful of Navy men assigned to them for liaison work. The Navy has nothing to do with piloting the Army planes, or with their bombing operations. You might say that the liaison job is to help the Army pilots find the Jap ships.

A bomber on the hunt must often fly for hours over monotonous stretches of water — something many an Army pilot did not anticipate when he entered the Air Forces.

In our liaison work, we chart the sightings of enemy shipping made by both Army and Navy observers; we help determine the ships' routes, so the air crews will more readily find the targets; and we try to help the Army men better identify and describe what they have seen when they come back.

Identification of craft is often peculiarly important. That is an essential part of the Navy man's training. Most of us attached to an Army Air Force have done our time at sea. We know most of the weak spots in various types of ships.

Shipping strikes have been a major assignment for most of our Army Air Forces in the Pacific ever since the war began. The Japanese octopus lives on two-way circulation. Manufactures and troops must flow

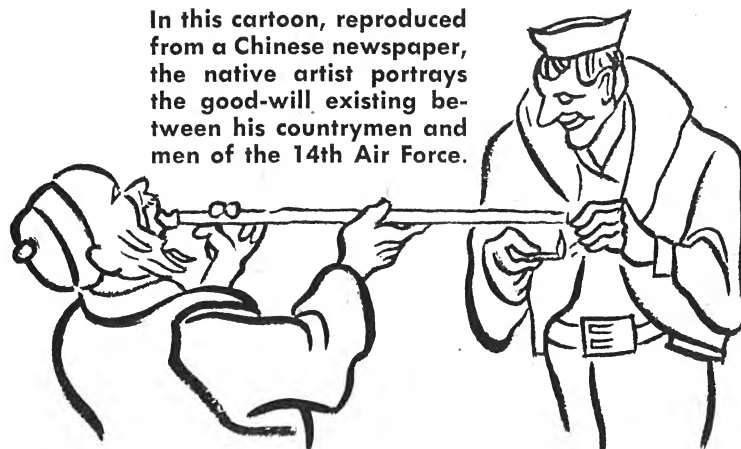
down the tentacles from the home islands; raw materials like oil, rubber, rice, must flow steadily back to the homeland. Interrupt this circulation, and decay of the organism sets in.

This is naturally a prime undertaking of our Navy, which has been sinking and damaging Jap ships at the rate of 50 a week since the middle of last year. It is also a task shared by all our Army Air Forces in the Pacific — with the exception of the 20th and 21st whose super-bombers concentrate on long-range land targets.

People tend to think of Liberators in the

in turn, has given us bases that will enable our planes to cut off Japan almost completely from her southern empire.

THERE are Air Forces with more planes, but none with a tougher heavyweight division than China's Fourteenth. Our Liberators in China have been doing a job to which Admiral Nobutake Kondo, Commander in Chief of the Japanese Fleet in China, could well testify. The B-24s of the Flying Tigers have done plenty of damage to his ships off the China Coast. Between March of 1944 and January 1945, the Lib-



WHAT IT MEANS TO THE JAPS

In the darkness the coastline of the island is barely visible. Shallow waves break quietly. Not a light is visible. Then a hundred yards out, a red light briefly flashes a signal in code. In the glow a submarine hull is revealed. A moment's wait and there is an answering flash from just beyond the beach. Small figures scurry down to the water, and soon three dark barges head out to the surfaced submarine.

The Japs are bringing in supplies.

When your supply lines are hacked and chopped and struck at every day, when your freighters and transports are daily blown out of the ocean, then you desperately resort even to submarines, and to long lines of towed barges and sampans that were never made for ocean travel.

That is how the Japs continue to supply their outlying garrisons, struggling to save the Jap life-lines that are slowly but inexorably being cut by the Allies. Already approximately ninety thousand Japanese troops on the Solomons, New Britain and New Guinea have been left to their own resources. Supplying them is now impossible. They live on berries, coconuts, native fruits.

Jap losses have come so prohibitively high that most of their supply work in the South Pacific is now done at night.

— LIEUTENANT WALTER PETRAVAGE

Pacific as chiefly important in bombing hostile bases; in strategic attacks on enemy industrial centers, railroads, docks, oil refineries; in missions designed to reduce some island fortress so we may capture it. "Liberators strike Iwo Jima again," read the headlines week after week, before we softened the defenses sufficiently to seize this fortress that is so near to Tokio. Those are the spectacular missions. But the routine attacks on Jap shipping are equally important, softening the Jap for the kill. Thus our previous disruption of Jap shipping vitally aided our conquest of the Philippines. Our repossession of the Philippines,

erators sank 395,342 tons of Nip shipping and probably downed another 109,315 tons. Our biggest prize package was the Conte Verde, Italian passenger liner of 18,500 tons. It was sunk by two direct hits from a lone Liberator which sneaked in over the Hwangpu River near Shanghai, where the Japs were attempting to salvage the ship.

Major General Chennault's Air Force has always been popularly thought of as a "fighter outfit." Since pre-Pearl Harbor days the names of Chennault, Vincent, Hill, Olsen, and Mahoney have been making the headlines for China.

But the bomber boys of the China Liberators deserve equal fame. You should also know the names of fellows like Carswell, LeVan, Koschick, Farnell, and Capt. John Shytle, bombardier, who alone has accounted for 42,035 tons of enemy shipping.

In China both the crews and the planes must be tough. Living conditions at forward bases are anything but pleasant. Everything has had to be flown over the Hump, vast Himalayan barrier between China and India. This is no simple feat in itself. Spare parts are few and far between. The ground crews in China have a tough time. So do the flyers.

To know what they go through you might like to hear about one of the 14th's heroes — Major Horace S. Carswell.

One of his feats won him the recommendation for the Congressional Medal of Honor. It was on the night of October 16th that a six-ship convoy was picked up by one of his crew. The Japs were about midway between Hong Kong and Takao, headed for the Formosa port. Carswell turned the plane over to the bombardier to direct the first run, which was aimed at a destroyer identified as one of the new Terutsuki class. Two direct hits and two near misses resulted; this ship could be chalked up as destroyed.

The Major was not content with one ship. Unmindful of the terrific ack-ack barrage that was being thrown up, he ordered another run. This was to be a low one, less than a thousand feet. The outcome was two direct hits, and one near miss, on another cruiser of the Natori or Kuma class. The cruiser folded in like an accordion. The explosions threw the bomber into the air, shaken as a terrier shakes a rat. The plane was in a tail-up, nose-down position which called for the combined strength of the wiry Texan and his co-pilot to regain control.

An hour and twenty-five minutes were spent in this battle altogether, and Carswell's sinking of two warships with a Liberator that he got home safely is still barracks talk among the China crews. But Carswell — like some other heroes — did not live to wear the medal his

feat earned him. Here's what happened:

Ten days later the Intelligence Officer told Carswell of an eight-ship convoy in the South China Sea, southwest of Hong Kong. He flew out to seek it. The eagerness with which he went out on his last mission is typical of all the Liberator pilots and crews in the China theatre. When finally sighted, the convoy had grown to one of twelve ships, including two destroyers.

The first run on a destroyer came as a complete surprise to the enemy. The bombing resulted in a 20-foot near miss — close enough to claim the "can" as damaged. Thirty-five minutes later a second run was made through intense ack-ack — anti-air-

The picture below, reproduced from a snapshot by Corporal Edward Nowak, Jr., shows a dance staged by airmen of the 14th Air Force, at General Claire L. Chennault's headquarters. One of the Chinese girls in the picture, Ming Chen, is the daughter of a Chinese general. American girls on duty in the area also attended in force.



Below, Liberators are being attacked by phosphorus bombs dropped from Japanese fighter planes flying in clouds overhead.



craft fire — on a 350-foot freighter. Two direct hits probably destroyed the ship.

During the last wild melée, two engines were shot out and a third was hit and sputtering. The hydraulic system was gone. So was the number two gas tank.

The B-24 staggered above the water, barely visible in the night. Everything with any weight whatsoever was thrown overboard and the plane was scarcely under control. For height had to be gained, if the Liberator was to get home to base. The East China terrain is rugged; the mountains to be crossed are high. As you know from the newspapers, the 14th has lost many of its bases to the Japs. We must fly far inland to reach home.

But the highest altitude Carswell's Liberator could reach was 4,000 feet — not nearly enough for return to base. Even this height was gained only by climbing to a stall, then diving to pick up speed for another climb.

The coastline was finally reached at 3,500 feet with two engines out and a third damaged. One hour later, long before a friendly field could be found, that third engine was failing and the plane began to go out of control. The order was passed to bail out in parachutes. Many of the crew did get clear, in time, and it was from them we learned the story. Before Carswell and his wounded co-pilot could hit the silk, the plane crashed into a mountain.

The Liberator was their funeral pyre. That is the way heroes have to be prepared to go.

BUT sometimes, when out looking for enemy shipping, our Liberators have some exhilarating sport. Last year, for instance, two B-24s flying a South China Sea reconnaissance sighted a Mavis. This is one of the Japs' big four-engine flying boats. The Mavis tried to climb to cloud cover. But one of the 24s got in between the Nip and the cloud while the other Liberator pressed the attack, making passes which the pilot had been taught in a fighter school.

Such fighter tactics, rather novel for a Liberator, proved the complete match for that

AAF Kodachrome



A Liberator of the 14th Air Force comes home to its Chinese base after bombing Jap shipping. Reproduced from a painting by Lt. R. S. Reeves, USNR.

Mavis. The enemy fell to a watery grave.

We have some famous planes in the Fourteenth, as well as famous flyers. Fight crews look on their planes as almost animate things, you know. "Sherazade" is one of the Liberators we still talk about.

She was attacked by a large formation of Jap fighters. One of the Oscars tossed a 20-mm which burst in the cockpit. It killed the pilot and wounded the co-pilot. But the gunners, although taking a lot of shrapnel, stuck it out. "Sherazade" was riddled with

holes from nose to tail, but she accounted for three Jap fighters, and limped home.

"Chug-A-Lug" is another Liberator which put up one of the game fights that are making aerial history over the eastern seas. With hydraulic system, flaps and brakes shot out, with the tail turret inoperative, the tail gunner killed, and ammunition short, the brave survivors still accounted for six certain Jap fighters and another probable one. Flyers still tell that story over Chinese chow and say, "What a

plane! What a crew!" And they mean it.

To do things like that our planes must be tough, and they are; and so are the crews — they are Americans you can take pride in. But don't make any mistake about the job that still lies ahead of them. As General Joseph W. Stilwell has said, "We have to kill 10,000 Japs each week just to keep the population stationary." That is, half a million more Jap males are born each year than die. We have hardly even begun to kill Japs yet.

OUR Schools HAVE A JOB Ahead

By
**Lieutenant Harry B. Girdler,
A.C.**



Lieutenant Girdler, who at 24 holds the Distinguished Flying Cross and Air Medal with four clusters, is a Liberator Navigator with 40 missions to his credit in the Asiatic theatre. He is the nephew of the Chairman of the Board of Consolidated Vultee, was recently home on leave.

THE schools in the United States are doubtless going to take a lot of punishment when fellows like me leave the service. For several million of us will probably be heading straight back to the class rooms about the same time. All of us have learned a lot of things that many teachers and professors never heard about — things that are the difference between life and death.

So there is bound to be quite a tug-of-war between the professors and the veterans — over what's important and what's not. If the professors try to give us the same old stuff we got in class rooms before we went into the Army, they will face some rebellion in their audiences.

It's not that we were taught the wrong things in school. There's nothing wrong at all with English and Spanish and Algebra and American history. We need to know those things. History, particularly. The more history we know, the better it's going to be for us and for the whole world. And things like Greek and Latin are probably fine to help train your mind. So is a Zero boring in at 10 o'clock.

The real problem is not going to be subject matter, but the way it is taught — if past teaching habits continue. Pre-war, most of the civilian teaching was purposeless. We just learned to pass written tests because there were always written tests to pass. We learned relatively little—and took a long time doing it.

Teaching in the Army is different. Its purpose is always clear. You'd better learn

fast, if you want to *go on living*. Civilian schools, like Army schools, must develop a purpose, too — a reason for staying in business. That reason should be to fit students for life as it is. It ought to be understood that you'd better learn fast, if you want to *enjoy living*.

I was luckier in my pre-war schooling than most. I at least got some foundational study. I went to public school and to a military academy and to a naval academy. Then I had a year and a half of study in liberal arts and science in college before entering the Army. The most important course I took in those years — as it eventually proved — was a year of celestial navigation. They now teach the same course in a fraction of the time in the Army. But it did give me a head start.

The point is that I could have learned many times as much, in those years, if the professors had known as much about teaching methods as they knew about their subjects.

This thing of learning a subject in a fraction of pre-war time is strictly G.I. The Army doesn't sit you in a class room day after day for a certain number of hours a year, and then claim you must know your stuff just because you have gone through all those hours. The Army has a study technique. It works like an old-fashioned cram session, but makes you remember what you learn.

The results we have been getting show it works, and in a mighty fast way. It has con-

verted civilians into technical fighting men in less than a year, then put them out to operate efficiently over some of the toughest areas on the globe. Nor has it taught them merely techniques. By teaching them languages, history, and cultural knowledge required for human contacts in various nations, it has made them citizens of the world.

This G.I. system of instruction isn't likely to end when the war does. Most everybody I know of in the Army takes it for granted that there will be universal training in this country in peacetime.

Suppose every young fellow is given a chance at 18 months' military training between high school and college. (Incidentally, most of us in the services think this would be wonderful for the men as individuals and the nation as a whole.) If such universal training is instituted, Army methods of training are going to seem normal to every youngster in the country. The schools will certainly have to change their instruction methods in order to keep up.

I have talked with a lot of officers and enlisted men about education — we all like to bull about what we will do when we go back into civilian clothes. I think everyone I have listened to said he wanted more schooling.

There's a reason. Pretty obvious to all in this man's Army is the fact that the fellows who know most about war business get to the top of the ladder. When you have that drilled into you for three or four years, you are pretty likely to think that it also takes trained brains to get ahead in civilian life.

So almost everybody I've heard talking wants that same kind of extra training for civilian life which helped bring us back alive from missions. The G.I. Bill of Rights will make it possible. I hope the colleges are getting ready for the rush.

What I hope, even more, is that our professors have found out that men used to the airplane are used to getting places. This is no age for jogging around on a horse, if you have any goal in mind at all.

PACIFIC PLOESTI

By
Lieutenant John R. Hiner

Fifth Air Force

THIS is the story of the Ploesti of the Pacific, climaxed by what ranking Air Force officers have termed officially as the "perfect strike." It is the story of the Liberator men who bombed the huge Jap oil center at Balikpapan, on the northeast coast of Borneo.

Producing nearly 40 per cent of all the aviation gasoline that is now available to the Jap war lords, Balikpapan for months has been a "must" target for Southwest Pacific Liberators. Borneo is oil rich, not only at Balikpapan on the East Coast, but also at Lutong in the West.

Lutong is now under Liberator attack, too. Last December, for instance, a single Liberator of the 13th Air Force, piloted by Captain Robert D. Wallace, did so much damage there with its bombs that the refinery and storage tanks were still burning fiercely when our reconnaissance planes photographed them six hours later.

First developed by the Royal-Dutch Shell group of companies in 1907, when the original refinery was erected under Daniel Pyzel, the Borneo oil fields were prime booty of war for the Japs when they overran the Netherlands East Indies. American industry had put down the foundation for the most complete oil refinery outside the continental limits of the United States. Like our scrap iron, this oil was now turned against us.

Hence far-off Borneo became a lucra-



Jolly Rogers Liberators, with their skull and cross-bone insignia, leave Balikpapan aflame. AAF Photo

tive and highly strategic target for our Air Forces — but a target which just couldn't be reached in the early days of the war. Then American forces slowly crawled up along the north coast of New Guinea, carving painful miles from the heat and the mud and the jungle. Finally their advance carried them to a small coral island in the Netherlands East Indies.

That put Balikpapan and the rest of Borneo in range.

Bombers of the Fifth and Thirteenth Air Forces were alerted for the task. It was

to be a long 2700-mile round trip, requiring nearly 17 hours in the air. It would be the largest, concerted, coordinated aerial attack since the famous Hollandia strike.

The normal bomb load of the B-24s making the run was greatly reduced to accommodate bomb bay tanks of extra gasoline. Four thousand pounds of bombs nestled away in the bomb bays of each Liberator.

Leading our dual air force strike against Balikpapan was the oldest Liberator outfit in the Southwest Pacific. Self-named the

Jolly Rogers, who call themselves "The Best Damn Heavy Bomb Outfit in the World," this Liberator-flying unit of the Fifth Air Force has been in the Pacific since September, 1942. They flew the first B-24s over Rabaul, Hollandia, the Celebes, the Halmaheras and the Philippines. They felt right at home leading this blow against Balikpapan.

With the reduced bomb load, every strike had to count. The Jolly Rogers planned to "pin-point" the target, selecting the most important production units of the Balikpapan field. Targets selected included the Edeleanu plant, where aromatics for high octane gasoline were manufactured; the sulphuric acid plant; the oil drum factory, and the big Pandansari refinery.

Pin-pointing targets is nothing new to Liberator bombardiers in the Southwest Pacific. And the Jolly Rogers are old hands at it. Veterans of 8,000 sorties, they have sunk or damaged half a million tons of enemy shipping with pin-point bombing, shot down more than 400 Jap interceptors.

Briefing for the Balikpapan strike was held in headquarters the night before take-off. The intelligence officer was speaking.

"Our target for this show is the Pandansari refinery. Other outfits will follow us in. We are supposed to have fighter cover — and will that be a surprise to the Nips! But the cover may not be at the rendezvous on time. If the 38s aren't there, you can't afford to wait. You'll have to go in without escort. You'll need every drop of gasoline you can carry to get back.

"About the target area. There's a battery of heavy Jap flak along . . ."

The Jolly Roger camp had been humming now for two days. Planes were put in perfect condition. Autopilots, bombsights, a host of other instruments, were all checked to function flawlessly.

Technical representatives of American plants producing their equipment were on hand to untangle knotty maintenance problems which might arise. Ray Condon, Honeywell autopilot representative, was there. So was Jack Head, Norden bombsight. So was Les Crawford, Consolidated Vultee's representative in the field.

Line crews worked feverishly through the late afternoon putting the finishing touches on the Liberators. A few had been tough. Night came and the planes still weren't tagged "perfect." There could be no

mistake, no tiny mechanical imperfection, no matter how minute, that might impede the success of the strike.

Lights were rigged and work was rushed to completion on two remaining Libs. Unheralded heroes of many air battles, these linemen had put in a 15-hour day — most of it under a burning tropical sun. Finally the line chief turned to his GI mechanics.

"They stood in small groups around their planes, lighting cigarettes, taking a drag or two, tossing them away, only to light up again.

"Finally they took their places. Pilots sat grimly behind the controls. Maybe some wondered if the huge tires would withstand the more than 70,000 pounds gross weight that would grind into the coral strip at



This is a recon photo of Lutong, taken six hours after its bombing by Capt. Wallace's Liberator. AAF Photo

"That's it, fellows. Better get a bite to eat and some rest. This show starts at midnight."

Liberator's Les Crawford tells the story of the take-off.

"The boys weren't nervous, but they were tense. It would be a tough strike. They all knew it. They wanted to be on their way.

120 miles per hour. Maybe some prayed that the 53 inches of mercury planned for the take-off would make them airborne before the end of the runway was reached. Just beyond was the Pacific. That manifold pressure would have to turn the trick."

This was the heaviest night loading of Liberators in the theatre of operations.

Crawford goes on.

"At 12:45 the Jolly Roger flight leader started his engines, turned on his position lights, and started to move down the twisting taxiway to the strip. Other engines roared, more lights blinked on. Promptly at 1 a. m. the flight leader gunned his engines, checked his Liberator momentarily with his brakes, then started rolling down the silvery coral into the night. He was

Seventeen hours later they were back.

Soft rays of the late afternoon sun danced on their gleaming silver wings as they circled the strip in formation. One by one they came in. Trucks sped them back to their camp area. The colonel and a group of his staff officers retreated to the quiet of his quarters.

A tall, soft-spoken Mississippian, the col-

went into a loose formation, and nothing happened for six hours. Then the right wingman spotted a Nip. Crews took their alert positions. Discovery of our formation by the Jap recco chilled any hopes we had for surprise over the target.

"We closed formation and waited. The recco had disappeared. For another hour nothing happened. We were nearing the target area when all hell broke loose. Jap flak peppered the sky. They were coming close with their flak — heavy and accurate.

"Then we were jumped by 30 to 40 Zekes. A running fight was on. It started as we turned in for our bomb run. The interceptors pulled off to let their flak throw it up at us. We held the same course for the run. Our bombardiers turned the bombs loose. Then flashes of fire and flame obliterated the target area.

"How the boys put 'em there, I'll never know. Flak had us rocking like a cork on a rolling sea as we made the run. Black smoke rolled up to 15,000 feet.

"Then the Zekes were on us again, dropping phosphorus bombs from above our formation. They were uncomfortably close. One Nip was flying off our right, giving them our altitude.

"They dove in and out of our formation, trying to cut one of us off. They didn't have much luck. Our tight formation with concentrated fire power brought down 16 of them. We didn't have time to count the probables.

"Their gasoline supply getting low, so the Nips finally turned back. We settled down for the long trip home.

"And, as you can see, here we are," the colonel finished, opening another bottle of beer.

That strike against Balikpapan was an early one. On later missions more damage was done that should take a long, long time to repair. By the time repairs are finished — if the Libs will let them finish — it may be too late.

Such a bombing run in the Southwest Pacific area dwarfs European operations, not in numbers of planes involved, but in distances flown, preparations necessary, and the peculiar risks involved. It is strikes like this one against Balikpapan — long, hard, arduous strikes — that are reducing Japan's resources of empire, and weakening her for the day when we can move in for the kill.



AAF Photo

This is a Jap oil storage tank on Bonjoe Island, near Borneo, just before the 13th AF fired it.

gaining speed. As his engines attained full power, the end of the runway loomed ahead. Slowly the B-24 lifted into the tropical sky.

"Every 37 seconds another Jolly Roger Lib followed. And 20 minutes after take-off we could hear them high overhead assembling in formation."

They were on their way.

onel is a striking man. He found cold bottles of Aussie beer in the depths of a gleaming white refrigerator. Incongruity in the South Pacific. He filled glasses, lighted a cigarette.

"Well, it was the perfect mission; the best mission the Jolly Rogers have ever flown.

"When we took off this morning we



This is our [ENEMY]

Japan is conditioned by earthquakes to disaster — and the explosive fire of our bombings is not unlike her earthquakes in results. This is the burning of the Japanese city of Nagoya.

WORKERS in American aircraft plants, living in crowded towns where existence is a constant battle, may think their lives are hard. They could not even imagine the conditions under which Japanese aircraft workers labor and endure life. Our enemy still intends to win this war. There is no sacrifice Japanese workers will not make to attain that end.

Do you want to know the nature of the

By Howard Snyder

Mr. Snyder for many years was a lecturer on research in industry, at the Japanese Imperial University. He has travelled widely in Japan and in China, returned to America in 1943.

enemy we must defeat? Consider the ways of Yosuke Suma, one aircraft worker in the Nakajima Aircraft Works in Nagoya. Nakajima is one of Japan's greatest aircraft plants.

Yosuke Suma and his family are serfs who make the planes in which Jap pilots challenge our own gallant airmen. The family were neighbors of mine. In the Middle Ages a serf was attached to the soil. He



FPG Photo

e Diet, in the earthquake of 1927.

could not leave the estate of his feudal lord. Neither can Yosuke leave the Nakajima Aircraft Works. He is frozen to the job. It would be a major crime for him to try to leave.

All labor in Japan must register for conscription. The soldier gets a red card of notification, the laborer a white. Registration ages of men were 12 to 60 in 1943, have now been pushed up to 70. Unmarried

women must register also; their ages are from 12 to 40. They may be shipped anywhere and put to work in any industry.

Yosuke lives with his wife, Chiyo, and their four children, ages 6 to 13, in a tiny wooden box with a tin roof over it. An electric bulb hangs on a cord inside the house-box. In this one room a two foot corner is cut off for a privy, with its cesspool beneath the house. This house is exactly like tens of thousands of others that are jammed together on either side of an unpaved lane.

Yosuke spends 16 hours a day at his work, with two days off in the whole month. Japan does not observe Sunday; this nation is not a Christian society. He naturally cannot go on a strike.

WHEN Yosuke's children are not in school you will find them squatted on the floor of their single-room hut, doing piece work on some minutiae of aircraft. Japan's youngest aircraft workers are children 12 years of age. Hour after hour until late in the night they sit there with their mother, repeating endlessly their monotonous task. This family unit of production is universal in Japan. Chiyo and her children make

about \$1.25 a week. It is suffocatingly hot in those little shacks in summer, bitterly cold and damp in winter. There is no heat for charcoal is rigidly rationed. None can be had for the family brazier for heating — it is reserved for cooking.

Yosuke's family have neither enough to eat, nor any variety. All Japan stays hungry all the time. Chiyo and her husband are permitted only 7 sheng, or 8 pounds, of rice apiece each month. Japanese adults ordinarily have used a pound of rice a day. It is the one great staple in their diet. They cannot easily be shifted to another, cannot even shift from the customary polished rice to unpolished rice. But 40 per cent of their ration of rice last summer was unpolished rice. This has caused serious digestive upsets in both Chiyo and her children.

Fish, the second great staple, is almost impossible to find in the fish markets. In ordinary times 40 per cent of the diet of the Japanese people is fish. Now there is a great labor shortage among fishermen. Much of the fish haul is dried and sent to the army in China that now fights on a front over 2800 miles long. Chiyo may be able to buy one pound of fish a week if she waits in line long enough. And sometimes

The Japs have practiced air raid drills for years. These searchlights now seek our planes.

FPG Photo





FPG Photo

Japs are used to regimentation. This is cleaning time in Tokio. Twice a year the law compels all houses and shops to be thoroughly cleaned by setting their furniture out in the streets.

she is able to buy eel or whale meat. But in winter it gets cold in Nagoya, and waiting in line for hours is hard — Chiyo has no leather or rubber-soled shoes now, nor has she any woollens. There are no new cottons, woollens, or silks to be had.

Ordinarily the myriad little one and two-acre farms of Japan produce a sufficiency of vegetables — cabbage, spinach, lotus roots, bamboo sprouts, potatoes, tomatoes, the beloved white radish that grows two feet long, and many others. But not now. Japan made her tiny farms produce so abundantly because of the vast labor she utilized on them. That labor is gone now. And our blockade of Jap shipping is rising to a crescendo that prevents many imports from the outlying ring of Empire. Hence vegetables are very scarce. Seaweed is the commonest. Chrysanthemum blossoms may be had at times. These are drenched in sake and soya-bean sauce and eaten. You can no longer buy peanuts, pistachios or beanjelly candy, the universal confection in Japan. Nor can you find, anywhere, meats whether dried, canned, or fresh. Milk, butter, cheese, bread, canned goods, or salad dressings are not to be had at any price.

IN Japan as in America women are for the first time playing a vital part in industry. In the Nakajima Aircraft Works, as in all other Japanese factories, the proportion

of women to the entire labor pool is determined by the government — or rather by the military that controls this government. In July of 1944 the decreed proportion was 38 per cent of women aged 12 to 40. Another 33 per cent of the labor was forced labor from China and Korea; 15 per cent was adult Japanese men; and 14 per cent of it was boys too young for the army or physically disqualified.

Yosuke is a highly-skilled worker, so that his wages are at the top of the list — he receives the equivalent of three American dollars per day. But 42 per cent of this is taken out for taxes, bond purchases, and compulsory savings. His rent is an equivalent to \$6.78 per month. After all deductions his wages come down to barely enough for subsistence.

He has but one pot for cooking — the law allows him this metal pot, one clay brazier for his charcoal fire, one metal-bladed knife, and one family treasure or luxury. His own luxury is a little portable victrola. He has no furniture, owns no property anywhere, and has no bank account. He and his family sleep on the floor. In summer mosquitoes are bad and he sweats under a mosquito netting; in winter the wind blows up through the cracks in the floor.

Why does he work so hard under these conditions? Not because he holds the ideal

that through his own efforts he can rise to some place of importance where he could have a better life. Rather is he driven by the belief that he as an individual is nothing, and that only by grace and sufferance of his god-Emperor does he live.

Twice a day Yosuke is taken from his work to the roof so that he may hear this doctrine preached in grandiloquent style. He is told that peace is only to be found in unselfish sacrifice for the *Kamigoichinin* (Upper Exalted Foremost Being) and Dai Nippon (Great Japan). He hears endless propaganda over the factory radio about Dai Nippon's divine mission and the holiness of Japan's cause. He is told constantly of the invincibility of the Imperial Army led by the *Tenno Heika*. He is reminded always of the godlike virtue of the sacrifice he is making for his godlike Emperor. He knows nothing at all of Japan's true status in the war today.

Thus he fully believes Japan will be victorious. Ask Yosuke or any one of the millions of other Yosukes in Japan when victory will come and he will reply — *mada-mada* (later on). That is typical of the Japanese mind.

Still, our aircraft worker in Nagoya, like hundreds of other industrial workers in Dai Nippon, must feel some trembling wonder about the future. Contrary to expectations, little has been done for Yosuke's defense. As the air raids mount in intensity, Yosuke's life has become disrupted and sleepless. For months searchlights have played the skies over Nagoya, black-outs have been enforced. Now the expected raids have become reality. No matter what the death and destruction around him, Yosuke cannot flee. He is a slave bound to the machine — and a willing slave. He has no choice even as regards his family, who are similarly enslaved. And — having never known it — he could not value freedom if you offered it to him.

Yosuke is desperately serious in his work. You never see him laugh. He never jokes. He is always tired — but he is purposeful.

He is the man our Air Forces and our Army and Navy must defeat. But he has already had complete defeat in life, by any standards we ourselves would apply. And he cannot fear death because that, by his definition, will be his final glorification as a subject of his god-Emperor.

I'M 22, now. I've learned some things first hand.

Don't believe all that those Hollywood features tell you about life and death in the Air Forces.

Don't believe that a bunch of ribbons on a chest always marks a hero, for instance. Often they mean luck. You get them when you have completed a certain number of combat hours. In the Indo-China theatre, for your first 100 hours on mission you get the Air Medal; for 200, your DFC; for 300, an Oak Cluster for your Air Medal; for 400, an Oak Cluster for your DFC. Along about 450 combat hours the flight surgeon ordered me home on leave: battle-weary, he called it.

They gave me two battle-stars for my CBI theatre ribbon, indicating I had met up with the enemy in service in both India and China.

Don't get the idea that even wounds necessarily make a hero, either. In December 1943 I got the Purple Heart. An explosive shell had come in through the nose of our B-24 and showered the navigator and me with shrapnel. The stuff winged me in the left leg, right arm, and my head. I didn't lose consciousness; didn't even lose much of my Grade-A blood. It was like getting hit with buckshot: a lot of little holes but no blood.

They didn't even hospitalize me. No lovely blonde nurses. No need for help to write my letters home. Just some gauze, cotton and sulfa powder, a strong anti-tetanus shot, and a little "Be careful, Lieutenant, with those bandages for a few days when you take a shower." That was all.

And don't believe the romantics about the deep comradeship in war making. Of course, in a bombing plane you do nothing single-handed except spit—you're part of a team, and for better or worse your life is wrapped up with the lives of the rest of the crew. But actually, you make friends quickly and lose them fast.

Your crew loses a man and you take on a replacement, and pretty soon you've forgotten what the missing guy ever looked like. You become casual in your acquaintances. War is a matter of here today and where will you be tomorrow. Some of the men you meet are wonderful fellows; a few are bastards. Some of your officers are pleasant to work for and some have downright poultry-yard officiousness (the Army has a



Not like the Movies

By

Lt. Richard C. Amidon

**Bombardier 7th Heavy Bomb Group
10th Air Force**

phrase for it). You try neither to get too friendly with men you like nor to be too much annoyed by those you don't. Keep your relations impersonal, like a surgeon. Get the job done and go on back home. That's the idea.

And don't let them tell you flying is exciting. It happens I had never even been off the ground, except in a hotel elevator, until I dropped my first bomb. That was back at Midland, Texas, where we did our training. Flying for most of us in the Air Forces is usually about as routine as pushing a lawn-mower, and less pleasant. Stripped of all needless weight, accessories, and comforts, a bomber is as bare as a cold box car, and all you need is the click of the rails to think you're on a railroad. Except it doesn't take you to interesting places.

Of course you have your highspots. There was the day, for instance, our No. 2 engine caught on fire when we approached the home field. We didn't know as yet how badly we had been shot up by both flak and machine-gun bullets while over our target. We were at altitude 700 feet, preparing to let down. The co-pilot pushed buttons A, B and X, to drop the landing-

gear. The tricycle didn't drop; Annie didn't live there any more. So we circled the field again. Our No. 1 motor caught on fire then, too.

What you do then is drop your flaps. That slows you down to a speed safe for a belly-landing. We tried that. But the vice-president in charge of flaps said they had left town.

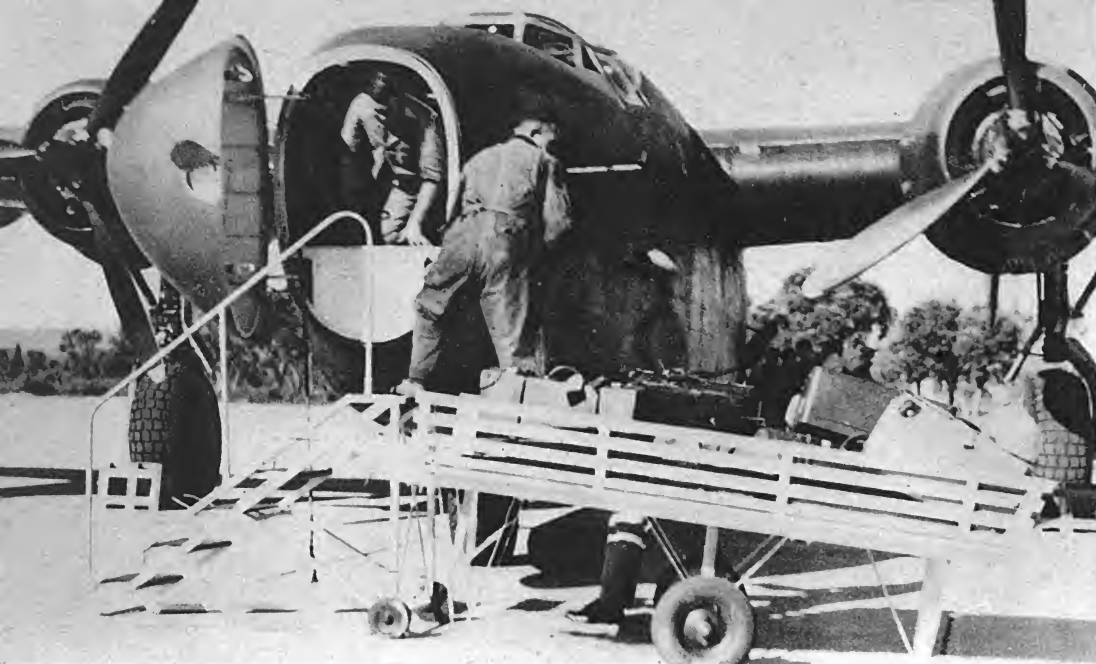
So it was simply a matter of crash-landing without slowing down. That landing-strip looked as long as a calling-card as we whizzed toward it at a speed of 150 m.p.h. We hit the ground kerplunk and crumpled up the entire belly of the ship. We were sweating out an explosion and fire. I remember climbing out the top turret, just like that. The plane had jackknifed together, so the top turret narrowed like a cellar-window. I tore my clothes off getting out. But not a man of us was killed or even injured. The medics keep a select supply of combat whiskey on hand for such events. Somebody poured us a drink. One moral is that even crash landings aren't always bad, at all.

Such moments give you tingling tensions. But don't think they release the festering monotony down inside of a man. Often your only feeling after a mission is loneliness and depression. You come back from wherever they sent you with that load and you know there will be a vacant bed, maybe two, beside you in the barracks.

Well, it almost surprises you that the bed is still vacant when you get up the next morning. Pretty soon the department that handles such things calls around and packs up Joe's or Bill's things to send them home. They always look through everything first. Some man's wife or family might be awfully surprised over the love-letters and/or other accessories out of a shirt-pocket. So the Air Force is tactful about things like that.

But you don't spend time brooding when those things happen. You don't feel either heroic or fatalistic. You just think you're maybe lucky, without much reason. You see men who never say an unkind word or think a lousy thought get shot down. You see lots of others with dusty consciences come home endlessly alive and happy. You don't see a meaning in any of it. Maybe there isn't any.

The one thing you can be sure of is that the meanings the writers try to give it in Hollywood are usually the bunk.



Quantas Empire Airways

Loading luggage through the nose of a Liberator Express on the "Kangaroo" hop, India-Australia.



Quantas Catalinas at an RAF anchorage in India.

FOR some time during this war there was just one gap in the Allies' globe girdling air communications that was not bridged. This was the over-water route from Australia to India. Our own American Air Forces spanned the Pacific by flying west as far as Australia. And both American and British planes reached India, going east via Africa.

But between Australia and India lay a water area falling into the British zone of influence. To fly it required planes capable of making the longest non-stop over-water crossing in the world. Islands that might have served as intermediary stops — the Dutch East Indies — were all in the hands of the Japs. To bridge this gap, the British finally began using American Liberators and Catalinas, in 1943. Operated by Quantas Airways between Colombo, in Ceylon, and Perth, in Western Australia, this service now connects in India with London bound planes, and gives England the final needed link with all her Empire.

The present route has been in operation a couple of years, but only recently have the military authorities considered the Japs pushed back far enough so that a reporter could safely talk about this lengthy and important flight.

The British are often secretive, but when I reached Ceylon they opened up. "Now you can show pictures of entire planes," they whispered. "No more slashing-out of special equipment" — so they said — "at the censor's hands. Now you can show an RAF plane *complete*."

You can hardly realize what this means. When I flew in an RAF-piloted Liberator



SPANNING THE

The British operate a globe-girdling system of airlines that has been using Liberators and Catalinas, as well as British planes. Here is the story of one vital link.

INDIAN OCEAN



by Fred B. Barton

from Ireland to Iceland in 1943, I posed the pilot and crew alongside their kite — a plane is always termed a "kite" or an "aircraft" in the RAF — and took snapshots which I thought revealed nothing censorable. Yet the censor's deft razor-blade cut out various features of the plane. After that I found myself photographing people up against things like barndoors.

But they've taken the wraps off the Quantas operation at last. That's why I flew to Colombo to take a look at it. Colombo is a city of jewelry stores, but if you want star sapphires, it's safer to get your bargains back home, at Tiffany's. I was looking for Cats.

I found them after an 83-mile ride in a jeep with an RAF guide and a barefoot Singalese driver who drove in straight lines. "Don't kill that cow!" I screamed at him presently from the back seat. He swerved to the left. And for ten minutes afterward he argued. "That cow was on the wrong side of the road," he said.

We reached the RAF base, signed in with the adjutant, had tea and marmalade and toast, and walked around the airbase in a setting like something out of a travel folder — coconut trees and bullock-carts and tawny natives, mixed in with dozens of RAF lads wearing jaunty blue caps and not much else, except boy-scout shorts. You

dress for efficiency and for comfort, often stripped to the waist, when you fly for the RAF.

We rode a small launch out from the jetty to where a whole bevy of Catalinas were tethered, like so many swan-boats on Central Park lake, to their mooring-buoys. The sun was already low in the skies, and supertime came before I had done much more than admire the scenery — followed by a social hour in the clubroom with RAF flyers around the loud-speaker and the bar.

I slept that night under the usual mosquito-bar dropped around my cot, and in the morning I met "T-for-Tommy," which is the name of a Cat.

Joe Atkinson introduced me. He is a compact little Canadian lieutenant who is the "T-for-Tommy" skipper. About himself he said little. It's the same with almost all airmen — they are shy about themselves, and talk constantly of their planes as if the machines were animate things.

"She's one of the first Cats sent overseas to us under lend-lease," he said. "She's the oldest Cat in our service. She has done over 2,300 hours. And she's still the best flying-boat in our fleet."

It developed that "T-for-Tommy" has outlasted two full crews — the RAF lifts its men out of flying after 1,000 hours of service — and had seen two of its skippers receive the Distinguished Flying Cross.

The old kite had served variously at Gibraltar and in the Mediterranean before it got down to the Indian ocean, where it took part in several rescues and helped pile up a total of 851 lives saved by planes from this one airbase.

Some of the reddest-letter days in its history came in February 1942, when it helped in the evacuation of civilians from the Nicobar Islands. The crew destroyed military equipment before the Japs could arrive, and Wing Commander L. J. T. Hilliard, who captained "T-for-Tommy" and led the sortie, was awarded the DFC.

Later, in December 1942, it took part in the bombing of Sabang, a 2,000-mile trip. Squadron Leader Stacey, who was its skipper then, was awarded his DFC for the feat. He flew through flak at 300 feet.

PERSONALLY I have no great feeling for machines as historic heroes. I just summarize Joe Atkinson's account of this old Cat's adventures to show you how these

airmen regard them, how they revere them.

If you can sit still in one of these Catalinas for 27 hours, you have what it takes to earn the Order of the Double Sun. This Order is issued to all passengers completing a one-way journey on the Qantas Line's Cats between India and Australia. If you ride a Qantas Liberator on the same line, you get a certificate for the Kangaroo Hop — longest in the world. The Liberator trip of around 18 hours is, of course, much faster than the trip in a Catalina, which has a heavy hull for landing on the water, and so is a slower plane. If you make the 3,600-mile flight in a Catalina, you leave Perth in Western Australia in the darkness of early morning, and see two sunrises before you land. Hence insignia of the "Order of the Double Sun" shows two radiating suns with a Catalina between.

For the present, travel accommodation on the route has been restricted to high priority passengers on war business. Passengers get several meals during the trip, but no fixed hours are observed. Passengers and crew eat when they feel like it. Menus generally comprise cold collations, vitamin-packed salads, sandwiches and fruit. The same informality governs the activities of the Catalina's coffee urn. This is turned on or off at the whim of passengers or crew. Passengers usually are only too glad of an opportunity to get out of their seats, if even for only a brief spell in confined quarters, and major-generals who have made the crossing have carried cups of coffee to members of the crew.

Since a large part of the flight is made across territory threatened by Japanese aircraft, strict radio silence is observed from the time a plane leaves Perth. Qantas has

turned to some of its oldest pilots for men with navigational skill, in order to reduce the hazard of planes losing their way. This entire trip is made by astro-navigation and dead reckoning. Danger of Japanese air attack at the Ceylon end has even closed radio homing aids usually available.

Although the Indian Ocean service fulfills a wartime need, experts consider it unlikely to continue when hostilities cease. Operating costs would probably make it uneconomical in peacetime. End of the war almost certainly will see Qantas again operating over the easier route via the Dutch East Indies to Singapore. Its flights over Burma and India will then be a matter for future settlement between Qantas and the British Overseas Airways Corporation, in which the British Government owns a large interest. The British and Australian governments will also be concerned in the matter.

Substitution of the British Lancasters for American Liberators and Catalinas on the route, in the near future, is meanwhile to be regarded as a natural development. The Empire naturally has a pride in seeing Empire built planes assigned to official routes. That Catalinas and Liberators were available to make the route possible during an emergency is to be regarded as one of the good fortunes of war.

The importance of this route in British post-war plans is paramount. It becomes the final link in Britain's girdling of the globe with British air service. As recently announced, the British have started, from Montreal, a trans-Pacific line that runs west through Canada, turns south to touch at San Francisco, and carries on as far as New Zealand and Australia. (See Plane Talk for January, 1945, Page 20.) So the British air arm that reaches out over the North Atlantic, from England to Canada, today stretches on over the Pacific to India, with the aid of Qantas.

Going in the other direction, east from London, the British have long had a through route to India via Karachi. Thus they are now operating lines that literally circumnavigate the earth. Further, they are operating from round-the-world bases that are wholly British owned or controlled. They need only omit stopping on our own west coast to have an air-line system on which — as they once said of the Empire — the sun never sets.

Temple housing one of Buddha's teeth, in Kandy.





Captain Chapman acts as pilot, navigator, conductor, business and promotion manager.

AIR LINE IN

Paradise

TOO many of the world's palm-fringed islands, once washed by azure seas, have been engulfed in blood-stained tides. But Nassau is one paradise that stands serene. Men can still dream of going there. I know one Captain who did.

He flew down with an old Commodore last fall, and what has happened to him since could make many a man green with envy. It's no story of world-shaking significance. But it might give an idea to some airman wondering about post-war opportunities. And it shows how much a little airpower can do, when you use it to make life a better thing. So it's a happy story. Maybe that's excuse enough for telling it, in these times.

The Captain is a young flyer called Ed Chapman, who is a Pan-American Airways pilot; and the Commodore is an old airplane—13 years old last December. Planes are sort of like dogs—a year in a dog's life equals seven in the human span, they say; and most planes age even faster. So you see this

Commodore is a very old airplane indeed.

It was originally built as one of the ancestors of later Consolidated Vultee planes that are nowadays making war history. Back in 1932 Commodores were the largest flying boats in America, and this one was making the then unbelievable run from New York to Buenos Aires—9,000 miles flown over 15 countries.

Well, this old Commodore came down to Nassau to fly after helping the war by doing a two-million mile Army training program. The plane is owned by Pan-American, but it is on loan to the Bahama Air-

ways, in which Pan-American owns stock.

For all intents and purposes, the plane is Bahama Airways, for the present. The other owner, besides Pan-American, is the Honorable Harold G. Christie.

Today the Bahama Airways, in the shape of this plane, is giving the natives of the Bahamas a whole new outlook. On the islands surrounding Nassau—which itself is some hundred miles from Florida—live perhaps 60,000 people, largely scattered through isolated fishing villages and farms. Nassau is the only real center. Boats are the only other means of transportation.

Here's one story about something beside war. It couldn't happen many places nowadays, but —

By Capt. W. P. Monan

Photographs by James Tierney

The islanders have taken eagerly to the idea of riding the Commodore to "town", which means Nassau. But the airline means far more to natives than the mere convenience of going to town quickly—or sending messages and packages in a hurry to some other island in the Bahama group. It has taken on intimate emotional meaning.

It has served, for instance, vastly to increase the attendance at funerals. In the old days, people working at Nassau could practically never get home in time—if home meant some outlying island—to help bury Aunt Bessie or Grandma. Funerals in these tropic latitudes are conducted without any delays to accommodate the distant mourners. Since the Commodore came, it has been carrying groups of grieving relatives all over the islands, including Governor's Island and Green Turtle Key. Such usefulness has already given the old plane the prestige of an island institution.

Captain Chapman started the plane off in its service out of Nassau late last year. This particular Commodore—as old-fashioned as a Model-T Ford, and as safe—had for some time been employed with two similar ships in Pan-American's navigation school at Dinner Key, training Army men like those who plotted Doolittle's course to Tokio, and carried MacArthur safely from Bataan. In September of 1944 the govern-

ment contract for such training was cancelled. Rumors rushed through the hangars. The three ships were to be used for flying rubber from the Amazon; they were to be sold; they were to be junked; they were to carry cargoes to San Juan.

Nothing of this happened to two of the planes, which have remained sitting, with engines decently covered, in back of Dinner Key hangar.

The third had a more immediate destiny. Loaded with beaching gear, spare parts, and ground equipment, she headed for Nassau under Skipper Chapman and his co-pilot — both of them old hands at flying her during navigation days.

The Commodore has been kept busy ever since her first Nassau anchorage.

From the beginning, for instance, she has been useful in serving the multi-millionaires who—with family and entourage—commute to their private dream-worlds in the income-tax free outer islands.

Her greatest renown, though, comes of her service to the island masses. Typical of their eagerness to fly is the enthusiasm they have shown for Chapman's inauguration of Sunday morning "Picnic Specials". The "Specials" started with a three-line ad in the local newspaper.

The ad merely stated that if enough persons were interested, Chapman would

fly a group to Paradise Beach on Hog Island, where the passengers could spend the day swimming in the ocean before being flown back to Nassau that evening.

The price in American money amounted to about twelve dollars — that is, three pounds for the round trip.

By the following afternoon, Chapman had received reservations for ten times the number the Commodore could carry, with requests for future flights.

Came Sunday, and the "Picnic Special" was inaugurated. Three times that day Chapman and co-pilot ferried basket laden passengers in bathing suits to a landing area adjoining Paradise Beach. He and his co-pilot took time off for a swim of their own, then began the trip back, touching water in the harbor just after sundown.

Ruefully, Chapman admitted that his tiny ad had started something. He foresaw that his wife would see little of him in Sundays to come. That is exactly what has happened.

Ever since then the old ship has been making money for the airline. The line previously had another plane — a Douglas Dolphin — but the Dolphin at present isn't functioning.

Chapman is the only Captain flying for Bahama Airways. He is a business manager as well as an airman. He now publishes a

The old Commodore seats 22 passengers, has freed the Bahama residents from dependence on slow mail boats, is literally regarded as a heavenly boon.



small ad regularly in the two local papers — the *Nassau Guardian* and the *Daily Tribune* — telling the public when and where the next trip will be scheduled. Many of his trips are charter trips, for which the rate is \$100 an hour, or 25 pounds in British funds. This puts the cost per passenger mile at about five cents, on the basis of 22 seats in the plane. That is obviously cheap transportation.

On the charter trips Chapman tries to take as many passengers as possible. This he accomplishes by asking each passenger when and where the passenger would like to travel next. Chapman records the name, telephone, if any, and the desired destination. The next time he is going that way on a chartered flight, he lets the prospect know. He credits 50 per cent of any fares thus paid against the charter fee contracted for.

It is Chapman's job — among others — to take care of the tickets before each flight, collect the money, decide where the trip is to go, and turn in the money to the management. In flight he acts as conductor as well as pilot. After take-off, he climbs to cruising altitude, hands the controls over to his co-pilot, then walks back through the plane collecting fares from each passenger. His pockets bulging with tickets and English pound notes, he then returns to the cockpit, to navigate toward the appointed destination.

On landing, Chapman's chief operational difficulty is to find a bottom that will hold the anchor, at many of the islands he serves. If a suitable anchorage is lacking Chapman or his co-pilot must remain aboard, to start the engines should the 8-ton ship slip its mooring.

Meanwhile the other pilot goes ashore, looking for possible business. Chapman simply informs someone on the island — usually the radio man — that he will be back at approximately such and such a time. The word will then be passed along, so prospective passengers can prepare themselves. Chapman always circles widely in the air, to give notice to potential traffic that the "Bahama Special" is arriving. By the time he has dropped to the water and taxied into shore, the passengers are all at the dock sitting on suitcases.

He has his troubles, of course. But his grateful passengers make light of transportation breakdowns. Once, for instance,

when he ran aground on a bar, the passengers without a murmur shed coats, shirts and shoes, and went overboard to help shove the old Commodore off the sand bar.

The ship is subsidized by the British government to the extent of 1200 pounds a year, or about \$4,800, the subsidy being paid on the theory that the plane and its crew are on emergency call at any time.

This last January, for instance, they received an emergency call from Harbor Island, 50 miles north-east of Nassau. An American business man, Larry Huntington, was reported falling into a coma. An hour and a quarter later the patient was on a stretcher, headed back by plane to medical care at Nassau. The previous December, Chapman carried a doctor and priests to administer last rites to Father Arnold Monlock, stricken at lonely Long Island. The Commodore was similarly hustled off post-haste last December, to succor a young girl suffering from relapsing fever at "The Bight", on tiny Cat Island.

The plane has likewise rushed to the scene of ship accidents. It is always at standby to help survivors of possible shipwrecks, and being a flying boat, can put down on the water alongside lifeboats and rafts. It has saved a number of lives, both directly and indirectly.

Thus in a relatively brief time the old flying ship has come to seem not only useful, but downright necessary, in the life of the Bahamas.

The only other transportation available to the islanders is by government mail boat. The mail boats are 50-foot power boats with auxiliary sails, shallow drafted for the Bahama flats. They roll devilishly in deep water, and are also slow.

Since Nassau is the commercial center of the islands, any one with business enterprises in the Bahamas must stay in Nassau the year round. Before the Commodore came, some of these people had not been able to get home in two years. Just to reach home for Christmas dinner would have taken many of them at least twelve hours each way through a rough sea. But Christmas Eve Chapman flew 23 persons (one an infant in arms) from Nassau to their homes at Oaktown on Green Turtle Key. Landing them Christmas Eve, he then brought them back the following afternoon.

To local people of affairs, the service has become a boon. Many of the wealthier pas-

sengers formerly flew their own planes about the pretty islands, before the war. The Commodore has carried on charter trips almost every important business man in the islands.

The man who supplies all New Providence Island, where Nassau is located, with milk, eggs and chickens, uses boats to ship his produce but insists on using the Commodore for his own travels. Betty Carstairs, the famous American girl who owns Whale Key and had her little empire written up in *The Saturday Evening Post*, has not yet flown in the ship. But Chapman half expects her any day now.

The Abaco Lumber Company and the General Sea Food Packing Company are two local organizations that use the Commodore often to carry their executives quickly from office to manufacturing plants. Hugh Griffin, manager for General Sea Food, travels regularly every fortnight on an inspection trip that takes only four hours by plane, but would mean an overnight voyage by mail boat.

The possible uses of such a service are limited only by imagination. Christie, president of Bahama Airways, has plenty. Being also in the real estate business, he has discovered the one novel way to sell prospects. He flies them.

He loads up the airplane with possible purchasers and wings low over the chain of keys. The prospects dream aloft over the fabulous beauty of the Bahamas, the amazing color changes of the water as the sea varies in depth from two to 600 feet, the natural perfection of each little island sitting like a jewel on a shimmering mirror. The passengers can lean out of the windows, study the islands from every possible viewpoint, and say: "I'll take that one!"

Already many millionaires have been attracted to the Bahamas, to build there their own island Shangri-las, and Christie is enthusiastically making plans for the future. He hopes some day to run on regular trips with the Commodore as far as Cuba and Jamaica. Chapman recently made the company's first charter trip to Jamaica, carrying the Receiver General there, with eleven other passengers who were eager to make the five hour flight.

Chapman charged them 20 pounds for the round trip.

Business is wonderful, and everybody concerned is just downright happy.



HOW WE GOT OUR SHIP

BY day the Havocs, Lightnings, Thunderbolts, Mitchells, and Warhawks scourge the coasts in search of Jap barges. Farther out on the sea lanes, long flying Liberators keep constant patrol for the more venturesome freighters and transports. At night, the Black Cats take over — night-flying Catalinas with special bombsights. Add to these scourges American submarines and the most powerful Navy in the world. That is how the Jap life line is being shredded in the Southwest Pacific.

We almost missed playing our own part in this shredding — our crew did. We had about four or five missions more to go in our Liberator before our combat tour was

**By Lieutenant Walter
Petravage
Fifth Air Force**

completed. One of these was to be reconnaissance, to search for ships. Three times before we had flown ten and twelve hour "reccos" vainly searching the seas for Jap shipping. It was a little discouraging to fly from dawn till dusk with nothing for our pains. The pilot, 22-year-old Lt. Bill Dean, said that he wouldn't quit until we had sunk a Jap ship. The bombardier, Bill Cunningham, wasn't so eager as all that, but knew you weren't quite respectable if you didn't

go home with at least one notch in your bombsight.

We had talked about that ship, planned for it, schemed on it. And we weren't going to be denied. We had a little trick we worked out and kept very secret. Too many crews had come back biting their lips because they missed their chance. There had been a Jap ship on the water, big and bloated and the sweetest target you ever saw. They had taken their time and made a careful run but the damn thing had turned just after the bombs were released. All they got for their efforts were a few dead fish in the ocean. That was a favorite stunt of the Japs. Waiting for the bombs

to be released and then altering course.

But we wanted a ship badly, so we had that all figured out.

The morning of our last recco we took a solemn oath. We'd get a Jap ship that day if we had to sail into a Jap harbor at five hundred feet. And doing that in a B-24 makes you a sure winner for collecting that ten thousand dollar life insurance policy.

That morning we were up before dawn and ate a breakfast of fried eggs and lukewarm coffee. The mess hall was deserted and it gave you a strange feeling. When there's a raid on, ten or twelve crews are eating at the same time. There's the relief of a lot of talk, a roomful of fellows, the

FINALLY it was light enough for us to take off and we climbed into the plane. We were carrying three one-thousand pound bombs and Cunningham checked them carefully while Dean ran the engines up. There would be no excuse for a malfunction today. If we sighted a ship those bombs were to be a pay load.

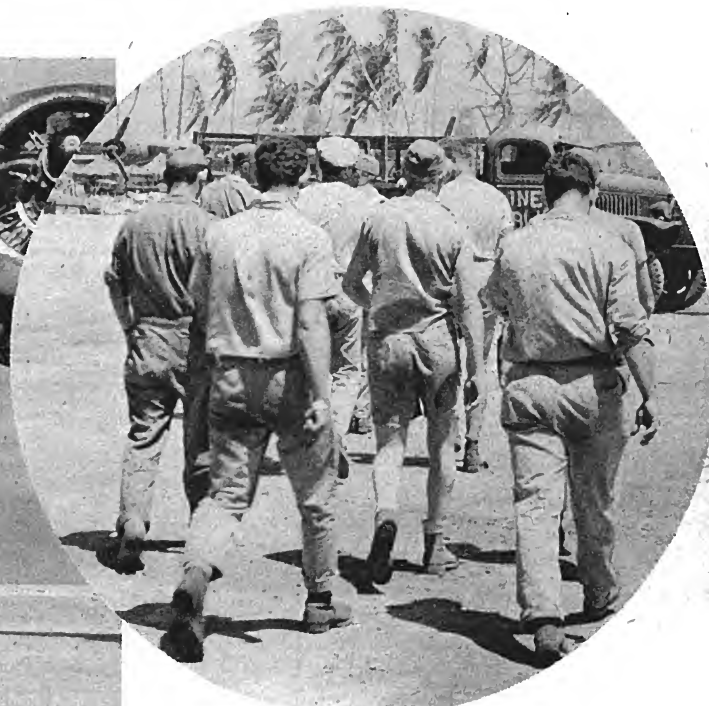
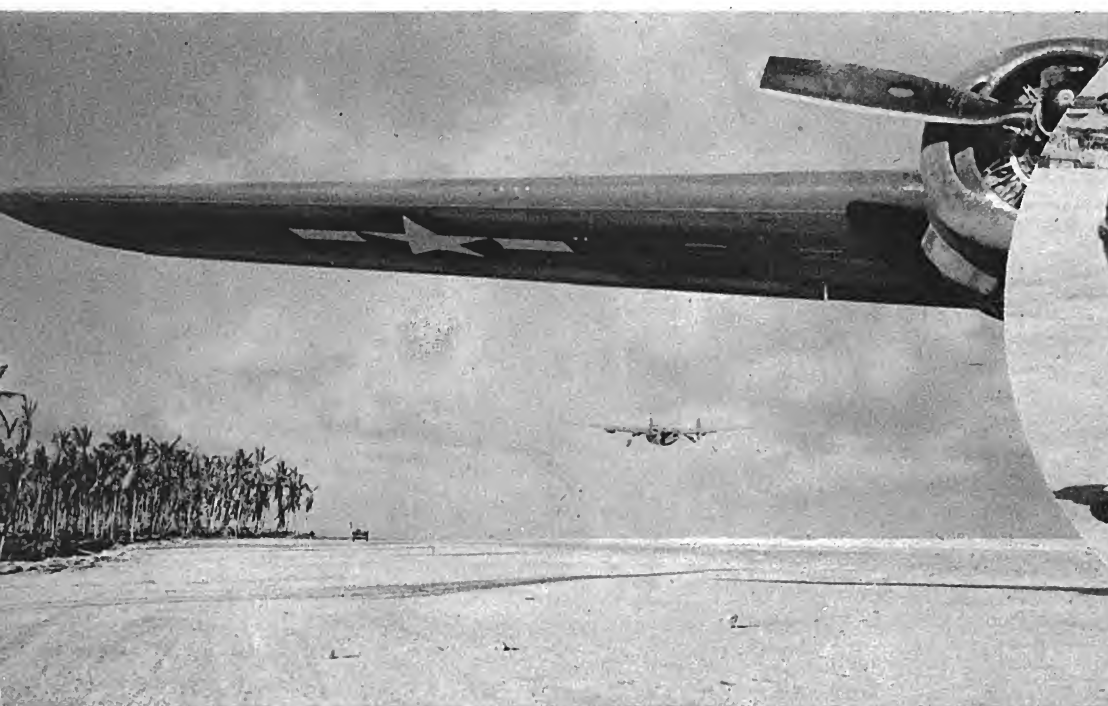
No "if" about it. We *had* to sight a ship.

At the end of the runway we stopped while Dean and Bowerman, the co-pilot, checked the instruments carefully. A green light from the tower and we began to move down the runway picking up speed rapidly.

Three quarters of the way down our

Plotting the search pattern for the day I figured the entire mission would take about ten hours. Seven hours out we would approach the island on our long square search. The island was only three hours flying time from our base, but we were covering other waters first.

Settling down for a long haul we scanned the waters carefully. Flying reconnaissance is weary business when there's only water to look at. It means long hours of ceaseless watch with the binoculars ever handy. It's surprising how often you can mistake a group of coral reefs for an enemy convoy. Then there's a quick alert, the gunners are ready at their sights, the bombardier is



Tired Liberator men return from a mission.

Liberators taking off from one of America's island bases in the Pacific, to hunt Jap ships.

strength of a crowd. That morning the mess hall was empty. We were the only crew flying.

So it was a quick meal and then down to the plane in a bouncing truck with the stars still blinking in a waking sky. It was to be a daylight take-off and so we waited around till there was enough light. Sitting on an empty oil drum in the revetment I thought I'd have a little fun.

"Dean, what do you want to bet we don't even see a rowboat today?"

That got him fast. "Well, we'll sure as hell fly till our gas runs out trying. Then we'll come back for more and go out again." He was deadly serious. Getting a boat was the only thought in his mind now.

wheels left the ground and we were airborne. In five minutes we were over the water and started on the long grind. We flew at five thousand feet and the visibility was good. If there was anything out there we'd see it. Most of the mission was over enemy waters. But the Japs had been taking such a pounding lately they were wary of their shipping. I had hopes, though, that when we approached a certain island that was critical we might see something. The enemy was fighting desperately to supply this island despite our constant air attacks, and wanted to strengthen it against the possibility of an invasion. We were to pass near that island and that's where I set my hopes.

poised, the pilot prepares to make a run, the plane is swung into position and bears down on the target. Then somebody yells through the interphone: "Oh hell, it's only a bunch of rocks."

For the first five hours we were patient. This trip had pay dirt in it someplace. Just give it a little time.

After five hours we began to get a little restless. We broke open some sandwiches and started to eat without much appetite, one hand on a piece of bread, the other on a pair of binoculars.

Six hours out I pushed my head into the cockpit. "What did I tell you Dean? Not even a rowboat." He turned around and glared at me. Didn't say a word. I knew that soon we'd be near the island with the possibility of good hunting but I didn't say

anything. I wanted it to come as a surprise . . . if it came.

Six and a half hours out I knew that if it came it had to come soon. If there was any shipping on its way to the island it would be in these waters. I looked up at Kernan, the engineer, sitting in the top turret ready on the guns. If there were any decks to be raked with fifty calibre fire he'd be sure to do a good job at it. You don't get two Zeros without a pretty sharp eye.

I went into the cockpit and crouched between Dean and Bowerman. Dean turned to me and smiled, an expectant, anxious smile. "Hope this isn't another bust. I'd hate to have four reccos and not a sign of a ship."

onto the floor of the flight deck. Then the nose guns, tail guns and waist guns gave short staccato bursts. Everything was primed.

Down in the nose Cunningham was over his bombsight talking quickly with Dean through the interphone. "We'll take that one in the center. The biggest of the lot."

ON the water the ships had seen us. They began a wild zigzag course. Three freighters and two gunboats shifting evasively. Light flak from the gunboats began to burst below us. Dean made a wide circle getting set to give Cunningham a run.

Dean gave instructions to the gunners.

Bomb bay doors were open. I stood ready.

"Bombs Away!" Slowly they clicked off. One. Two. Three. One thousand pounders curving sharply into the sea. Heading for the freighter, the big one. I watched them go down. Wham! The first fell off to the right of the stern. The second was short, too, but the ship was turning into the third. It would take only one! The bomb hit with a terrific explosion right off the stern. There was a tremendous cloud of steam, then a billowing roll of black smoke. It had knocked in the side of the ship. The steam was from the engine room and the ship was on fire.

I watched the ship list sharply and then begin to settle. Smoke was pouring from the deck. That last bomb had been in there!

The ack-ack was still coming in stiffly and Dean banked to give the gunners another go. The plane shivered with the clatter of the guns and suddenly there was a small burst of flame on the deck of one of the gunboats. An incendiary had squeezed in there. The flak was becoming more feeble as our ammunition belts ran out.

I closed the bomb bay doors and went up into the cockpit. Dean was almost out of his seat with excitement. Bowerman had the wheel now. We circled to watch the ship sink.

Then I remembered the island and the enemy planes based there. If they had received a call by radio from one of the ships below it wouldn't take them long to get out.

I leaned over and yelled in Dean's ear. "We'd better get out of here while we're still able to go home and tell about this. They'll probably have Zeros out here soon."

He looked at me surprised, as though he had just awakened. He had been so completely absorbed in the bombing of the ship that he wasn't conscious of anything else.

We sweated the first half hour but after that we knew we were all right. Either the ships had not radioed or the Zeros were off on a mission.

We sent a report to our base giving the location and the direction of the convoy. Soon fast flying B-25s and maybe some dive bombing P-40s from an advanced field would be out to finish the job we had started.

And that night the Jap commander of the besieged island would wait impatiently for the supplies he needed so badly.



Lieutenant Petravage, second from left in the rear, with the crew that got its quarry at last.

He was obviously beginning to weaken.

I was going to answer him when suddenly he straightened. Somebody had called him on the interphone. He crushed the earphones to his head, listened intently. Then he turned quickly and looked out the left window. For about thirty seconds his eyes roamed wildly. Then he gave a yell and banked the ship sharply to the left.

Something was happening. Straining over his shoulder I looked out the window.

A five ship convoy! Not one — but five!

Dean was yelling something through the interphone and I saw Kernan stretch in his seat. Then the charging handle of his guns went zip! and a couple of practice rounds were fired. The empty shell-cases splattered

The plane banked steeply and the top turret and left waist gun were in position to fire. The tracers fell short for the first few seconds and then began to arc onto the decks of the gunboats. Get rid of that flak! Clear those decks!

Dean turned the plane sharply and did a little evasive action. Slowly he was getting into position to give Cunningham his run. Then another bank and the guns were in position again. The ack-ack was breaking close now, right around the wings. Fifty calibre bullets sprayed down on the water and climbed the decks of the gunboats again. One flak gun went out of action. I heard Kernan give a yell.

Now we were settling down for the run.



AAF Kodachrome

The water in this swimming pool, where airmen recuperating at Torney take their exercise, reflects snow-clad San Jacinto, but its temperature is 85°.

WHEN his Liberator crash-landed in a rice paddy, Captain Curtis was pinned beneath a mass of metal in the demolished pilot's compartment, his left arm crushed.

The next thing he knew he was being dragged along the ground by a Chinese laborer who had seen the crash while working on a field nearby. That was the end of his 143rd mission, and the beginning of a long journey out of the Valley of the Shadow to a place beside the Still Waters, where body and mind are restored. It is a journey scores of thousands are successfully making.

The efficient Army Medical Corps di-

vides it into two parts — healing and reconditioning. What has happened to Captain Curtis is typical, in many ways, of the treatment given any American airman who is hurt by war.

In the hospital to which Captain Curtis was first taken, at this secret China base, he was treated for two compound fractures of the left arm. Four weeks later he was hoisted into a Liberator and flown to a station hospital in India, where he went to the operating room again. He spent two more months on his back in India, then was placed aboard a hospital plane bound for Florida. There Captain Curtis was taken to

BACK TO

the AAF Regional Hospital at Coral Gables, for ten more days of waiting. Then came his cross-country trip to California.

He arrived at Torney General Hospital at Palm Springs, in September of 1944, as a happy flyer, home from the wars at last, and not very far from his parents in San Diego. There he underwent a third oper-

In the gardens at Torney, in the bracing desert air, flyers on the way to new health can lounge in familiar army-gray pyjamas and red bathrobes.

AAF Kodachrome



ation. After healing, the Captain was given a month's leave to go home. Before he left he was presented with a Purple Heart in formal retreat ceremonies at the hospital.

That was the ending of his actual sickbed experience. But it has been only a start of the Captain's hospital treatment at Torney. Torney is equipped with a reconditioning unit. This is a phase of the Army's medical program which is almost wholly new — a development of this war. Whenever a badly wounded airman is pronounced on the road to recovery, he is placed in active training designed to restore to him the maximum possible use of all his facilities. This program is a system of planned convalescence originally worked out by Col. Howard Rusk and Major Gen. D. N. W. Grant, Surgeon General of the Air Forces. It is called reconditioning.

The object of the treatment is to restore him as a soldier to active duty. There is an important difference between reconditioning and rehabilitation — one which not all the public understand. Here is how Colonel Augustus Thorndike, M.C., makes the distinction:

"The term 'reconditioning' has been se-

is the responsibility of the Veterans Administration."

In the days of other wars, Captain Curtis would have been permitted to think of himself as an invalid indefinitely. Under disuse all his muscles would have grown flabby, his arm might have grown stiff, even some of his spirit might permanently have withered away.

That is why Captain Curtis was encouraged at Torney to get up from bed as soon as possible — was even given a leave home, in the midst of treatment. Now an ordinary day for Captain Curtis runs like this:

At 7 a.m. a nurse wakens him and three other officers, with whom he shares quarters in a small cottage on the grounds of what was once the El Mirador hotel, before it became Torney Hospital. Curtis is now in a cottage because he no longer needs ward supervision. From its windows he can look out over the sunswept oasis of Palm Springs to the jutting mountains that wall this garden spot from the desert. Torney is rimmed by 105 acres of lawn and gardens where soldier patients can stroll, exercise, play and relax in the shadows of pepper trees.

Breakfast is served between 7 and 8 o'clock, in the main hospital. Some of the patients are on special diets. Captain Curtis now eats three full-course meals a day — he has gained 55 pounds since entering the California hospital. After breakfast he returns to the cottage to read the morning paper.

The patients are encouraged to keep up on daily happenings throughout the world — particularly war news. They have plenty of good books available — Torney's library contains over 6,000 volumes.

AT 10 o'clock Curtis goes to "PT," as the patients have nicknamed physical therapy. Not considered a phase of reconditioning at Torney, "PT" is administered to the Captain in the modern clinic that is housed in one of the three ramps of air-conditioned hospital wards. A trained therapy aide applies heat to his left arm to stimulate blood circulation and tone up muscles long immobilized during the healing of fractures.

Muscle re-education treatments are now rehearsed, to train the dormant muscles to

Captain Curtis in basketball practice, in Torney's outdoor gymnasium.

USEFULNESS

By **PHYLLIS GANDEE**

How wounded airmen are brought swiftly back to health by the new Reconditioning techniques—how this Reconditioning differs from Rehabilitation—and how the Air Forces have pioneered in working out an idea revolutionary in its implications.

lected advisedly. It is not to be confused with 'rehabilitation.' The latter is a function not of the Army, but — by law — of the Veterans Administration. Reconditioning pertains to soldier patients and is the responsibility of the Army Medical Department. Rehabilitation pertains to soldiers discharged as veterans to civilian status, and



function through various forms of exercise.

Curtis is given occupational therapy to accomplish a similar objective. In "OT," the men do work in which they must use the injured parts of their body. Captain Curtis works at card weaving. This improves motion of his left hand and arm, in which there is limitation of flexion and extension at the elbow.

After lunch Curtis goes to the post theatre with other convalescents who are no



When patients can't go to the workshop, the tools and materials are brought to the beds.

Men lose their code speed after only a week of idleness. Convalescent AAF men practice.



longer confined to bed. Here a lecture is often given to the men, as part of the educational program administered by an educational reconditioning officer. Other days, there are training films, conferences, classes, demonstrations. Subjects are generally military, to keep the men informed of the techniques of modern warfare. Study helps keep them mentally alert. One of the prime aims of reconditioning is psychological: to instill in patients a desire to return to duty

as soon as possible — and to give them the physical means for doing so.

Swimming usually follows afternoon study. It is a pet activity at Torney — and no wonder. Splashing around in azure blue water beneath a desert sun, the convalescents seem more a group of carefree vacationists than patients indulging in exercise. Daily calisthenics directed by trained physical instructors are also conducted at the pool; so far as possible, recreational and physical training programs at Torney are carried on outdoors. Palm Springs has a fortunate location for this: it has an average of 328 sunny days a year, with winter temperatures that vary only between 50 and 79 degrees.

The remainder of the day Curtis generally spends leisurely — reading, playing cards, listening to the radio, writing letters home. The Red Cross provides various types of individual and group recreation, supplemented at Torney by the Army Motion Picture Service, USO entertainment and other organizations. Sometimes he plays golf at the nearby desert course. As his condition improves, he will be assigned by the reconditioning officer to a more active program.

In the advanced reconditioning program uniforms are worn, and a military atmosphere prevails. The men are soldiers again, they go on long hikes, discipline is tightened. During the last week, they undergo several hours of strenuous exercise each day. Military subjects constituting a refresher course are given the men who will soon go back into duty. Eyes and teeth are examined and necessary work is done. In many cases, reconditioned men are released from the hospital in better physical condition than when they entered the Army. They then report for reassignment to active duty. Captain Curtis, under this program, will probably eventually be flying a Liberator again.

CAPTAIN CURTIS is only one of thousands of Air Force men who are being speeded back to health and normal activity by such care; and Torney is only one of many similar convalescent centers for wounded airmen scattered all over the country. Of all the casualties entering these AAF centers, 82 per cent go back to some form of duty in the Air Forces. And most of the 18 per cent who retire, because of

such handicaps as missing limbs, are prepared to fill useful places in society.

It used to be said, by sad GIs in Army hospitals, that the only way to get out was to know a couple of Congressmen. That ancient gripe reflected the inertia of a system where soldiers going to a hospital practically dropped out of a living world.

It was in late 1942 that the Air Surgeon's office, aware of the defects of the old system, originated an experiment at the station hospital at Jefferson Barracks, Missouri. When the program began, some 50,000 men were "doing nothing but waiting" in military hospitals. Lt. Col. H. A. Rusk, then chief of medical services at Jefferson Barracks, initiated the activity that became, in less than a year, the new AAF Convalescent Training Program — a program that was extended to AAF convalescent centers throughout the country by the directive of General H. H. Arnold himself. In conducting it, the AAF is using some of the finest hotels and recreation centers our nation possesses.

Standing in one of the beautiful AAF "repair shops" at Pawling, New York, General Arnold recently looked at the crowds of happy skiers in the snow — all of them young men who had known the pain of flesh and bone torn away by steel — and he said:

"One of the most important advances to emerge from this war is the one you are seeing right here, all around you. It is a conception of rehabilitation that is entirely new. It is the idea of treating each man as an individual. It insures physical reconditioning and retraining, psychological adjustment, vocational guidance, and in the case of battle casualty, resocialization. We took these young people in the prime of life — the best that the country had to offer. It is our duty to return them to their place in the world as nearly perfect as possible."

If you visit a ward today in a typical AAF station hospital, you will find the beds marked by different colored cards. A red card means that the patient is still not allowed to get out of bed — although when his temperature has been normal for a day he may take mild exercises, lying on his back, of fingers, limbs, or neck. Men marked with an orange card can get out of

This airman, still confined to bed, does his exercises under careful supervision.

bed for ten minutes of mild muscle exercise. Those with green cards have the green light to everything — full vigorous calisthenics, an hour and a half of “ward fatigue,” or actual work, each day; and any sort of sports and recreation for which their ability and temperament fit them.

Some centers offer 30 different sports, ranging from horseback riding to race track running. Some have classes in such creative work as drawing and painting. All of them offer technical instruction in keeping with a man's training and technical skills. It has been found, for instance, that without practice men lose their code speed in a week; hence special code receiving and sending sets are placed by a radio operator's bedside.

There is no regimentation, and all instruction is kept informal. The essence of the system is that it inspires men to want to take part. To keep a man's interest in living constantly keen is one of the vital goals; it is emphasized in every study to which even bed-bound patients are introduced. “What you learn when flat on your back may save your life when you're back in the air,” is the spirit of the teaching.

In the words of Major General D. N. W. Grant, the AAF Surgeon General: “The program has had a tremendous soldier reception. Convalescents once did nothing but lie in bed, bored stiff. Now the almost universal reaction is, ‘Why didn't somebody do this before?’”

It is estimated that the program so speeds up the return of wounded and sick men to health and full activity that AAF wounded have been saved some 25 million man hours in hospitals, in just 15 months' operation of the program. Not only has the AAF demonstrated that complete healing comes far faster when a man is kept interested; it has produced revolutionary results in healing theories which have now been confirmed by special experiments conducted at the University of Minnesota on healthy conscientious objectors, with their cooperation.

The men in the tests were put to bed and observed for six weeks. As reported by Major Donald A. Covalt, M.C., who is executive officer in the Convalescent Training Division under the Air Surgeon General, these tests showed that when a patient is

kept in bed, “it takes more than twice as much protein to maintain in him a positive protein balance. It proved practically impossible to keep an otherwise normal patient in calcium balance while flat on his back.”

It was found that a normal man bed-ridden six weeks will have an 11 per cent average decrease in heart size, with his capacity for work going down steadily and rapidly.



Books to stimulate convalescents' thinking do an important job in the reconditioning.

Convalescents able to go to the shop still wear pyjamas and bathrobes at their work.



The AAF, under General Arnold, has taken the leadership, in its hospitals, in this new approach to restoring men to health and full life; but other military and naval hospitals are bound to be greatly influenced by the now-proved results. Further, post-war medical practice for civilians will undoubtedly adopt many of these new healing techniques. Thus, even out of the deepest cruelties of war experience, there comes new good.

Illustrations are AAF photographs





AAF Photo

AT 65° BELOW

SITTING on a desert base, a Liberator becomes so hot the metal can blister your hand. A few minutes later, in the stratosphere, temperature may drop to 65 degrees below zero, where cold metal will freeze to bare hands.

Despite a 195 degree inversion which affects all of a plane's 10,000 operating parts, Consolidated Vultee planes continue to perform satisfactorily. Such performance is not only vital for our wartime planes. It will be equally important in the great

planes that Consolidated Vultee is planning for the post-war world.

Back of such performance is a vast proving ground. One of its important components has been the Cold Weather Test Detachment at Ladd Field, Alaska, which operates under the Proving Ground Command at Eglin Field, Florida.

Alaska is important to our airplane development. Many of our post-war air routes to Asia will pass through this part of our Arctic. Unreported numbers of planes have already flown via Alaska to Russia. To know how our airplanes stand up in the Alaska climate is vital.

Last winter at Ladd Field, while temperatures ranged to 65 degrees below zero, technicians of the Army Air Forces and various aircraft manufacturers conducted exhaus-

tive tests to prove the operating efficiency of American airplanes.

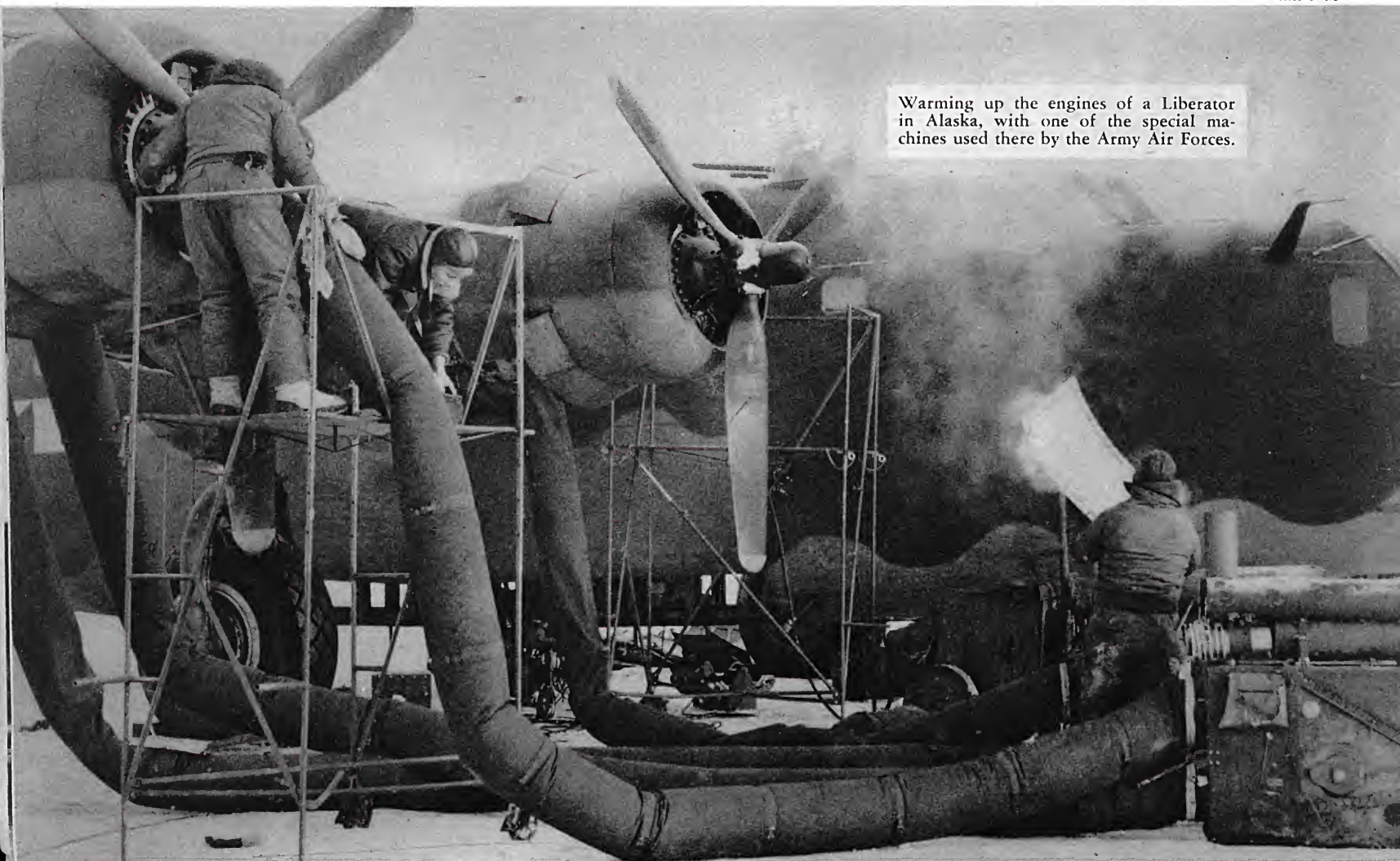
Forty different planes were used in the tests. Two Consolidated Vultee representatives worked with the AAF technicians — Charles L. Freel and G. J. Chikar, Jr.

The tests covered performance of entire airplanes and of all separate parts. In addition, accessories such as service trucks and tractors, cameras, clothing and food also underwent thorough proving checks.

Under great temperature changes, materials react differently. In a plane as long as the Liberator, for instance, the differential in expansion between steel cables and the aluminum fuselage poses a problem. In a temperature change of 100 degrees, long control cables contract one-half inch less than the fuselage, so the cables become loose. An ingenious hydro-mechanical regulator now maintains constant tension.

Tests at the Cold Weather Detachment proved completely the efficiency of the new thermal anti-icing system developed by Consolidated Vultee Aircraft Corporation, which not only eliminates the necessity of electrically-heated flying suits, and does away with windshield frosting, but eliminates the danger of ice formation on the wings.

AAF Photo



Warming up the engines of a Liberator in Alaska, with one of the special machines used there by the Army Air Forces.



Stinson "firsts" — before, during, and after

THE name "Stinson" has been associated with personal plane aviation leadership ever since that name was first given to an airplane, back in 1926. When this 1926 Stinson took to the air, it carried aloft an impressive number of "firsts."

DESIGN "FIRSTS"

Stinson was the first plane to combine the following features:

- An enclosed cabin
- The safety afforded by brakes on landing wheels
- The convenience of an electric starter
- The comfort of a cabin heater

PREWAR PERFORMANCE "FIRSTS"

These are Stinson performance "firsts" in the fields of commercial and personal flying:

- *First* to fly from Detroit to Tokyo . . . from New York to Bermuda.
- *First* to carry government air mail in

China, Mexico, and in the Philippines.

- *First* to explore the Greenland route to Europe, present-day route of the North Atlantic Ferry.
- *First* to provide air mail pick-up service.

STINSON "FIRSTS" DURING THE WAR

Stinson's main wartime job has been the manufacture of liaison and training planes for our fighting forces — the Stinson Sentinel, or "Flying Jeep," the Stinson Vigilant L-1, and the Stinson Reliant AT-19.

A Stinson Sentinel, hopping from the deck of a carrier, was the first American plane to land on Jap-infested Pelelieu Island . . . only one typical instance of many similar occurrences when Stinson planes took part in invasions.

"Out in front" of the front, these sturdy little Stinson "Flying Jeeps" are serving as the "eyes" of the armed forces, as flying ambulances, on liaison duty.

As No. 1 plane of the Civil Air Patrol, the Stinson Voyager has carried out 65 per cent of the Patrol's wartime operations.

The Stinson Reliant AT-19 has been widely used as a navigational trainer by the British. And almost every U.S. airline uses Stinson planes to train and check pilots.

The Stinson Voyager 125 . . .

THE NO. 1 PLANE FOR TOMORROW'S PERSONAL FLYING

Here's the Stinson Voyager 125, designed for tomorrow's personal flying. It combines the *safety* and reliability of the prewar Voyagers with the *toughness* and *utility* of the Stinson "Flying Jeep."

The Voyager 125 carries three passengers and pilot. It is powered by 125-hp. engine, has a cruising range of 470 miles, maximum speed of 123 m.p.h., and a cruising speed of 112 m.p.h.

- The Stinson Voyager 125 is the forerunner of a distinguished line of planes for personal flying that Stinson will make as soon as war conditions permit.

We welcome inquiries about the Voyager 125 and about Stinson's post-war plans. Write to Private Sales Director, Stinson Division, Consolidated Vultee Aircraft Corporation, Wayne, Michigan.

Stinson

The Aircraft Standard of the World

Division of Consolidated Vultee Aircraft Corporation, Wayne, Michigan





General of the Army Henry H. Arnold, Commanding General, Army Air Forces, whose portrait graced Plane Talk's front cover last July, is shown here wearing the five stars of his new rank, which was created for the first time in American history in December, 1944. This new portrait, reproduced from an AAF kodachrome, is published on this cover without logotype, to permit its framing.